

RECLAMATION

Managing Water in the West

NWS – Snowpack, River, and Reservoir Status Briefing

RESERVOIR AND RIVER OPERATIONS

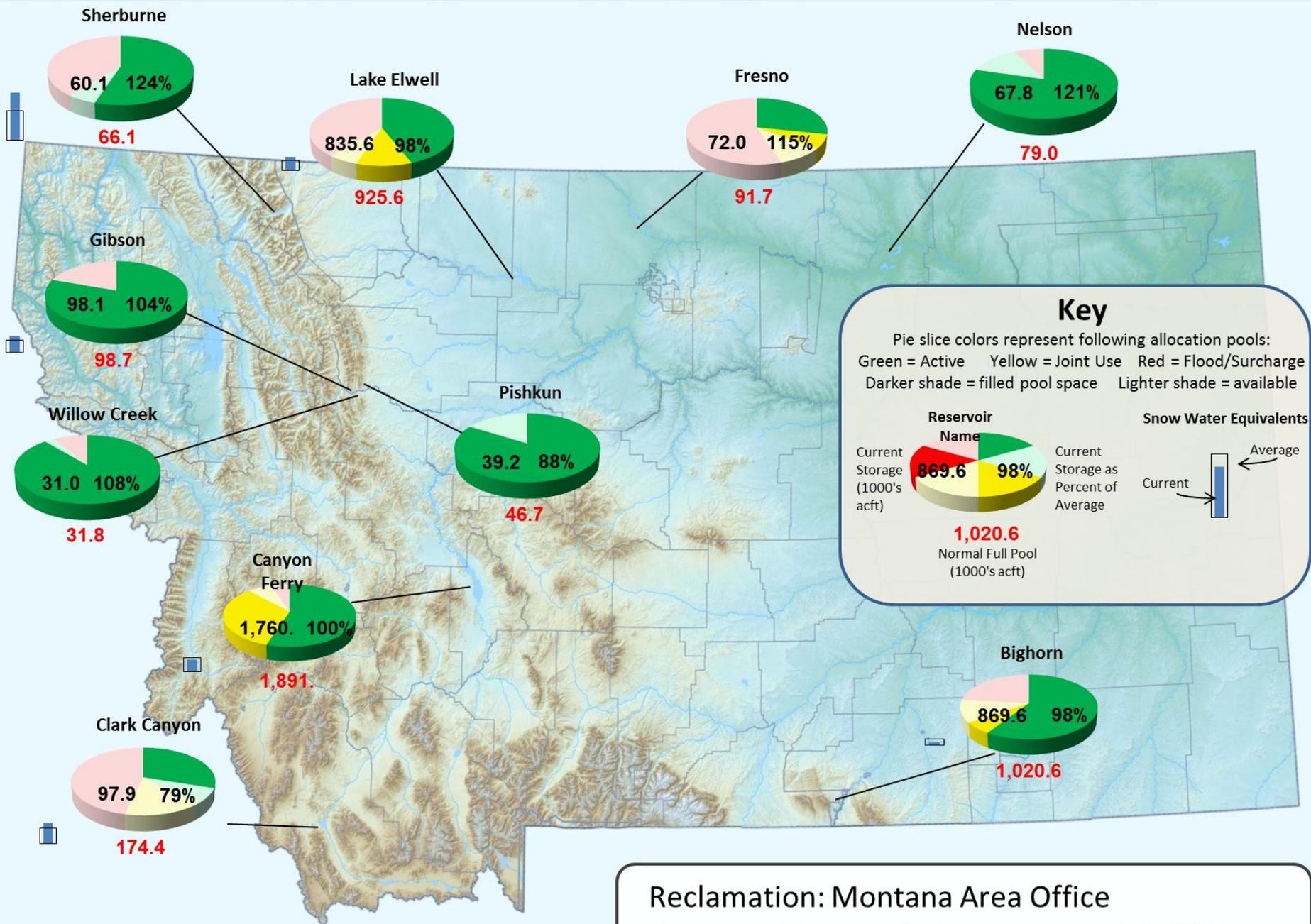
Montana Area Office

Billings

June 19, 2014

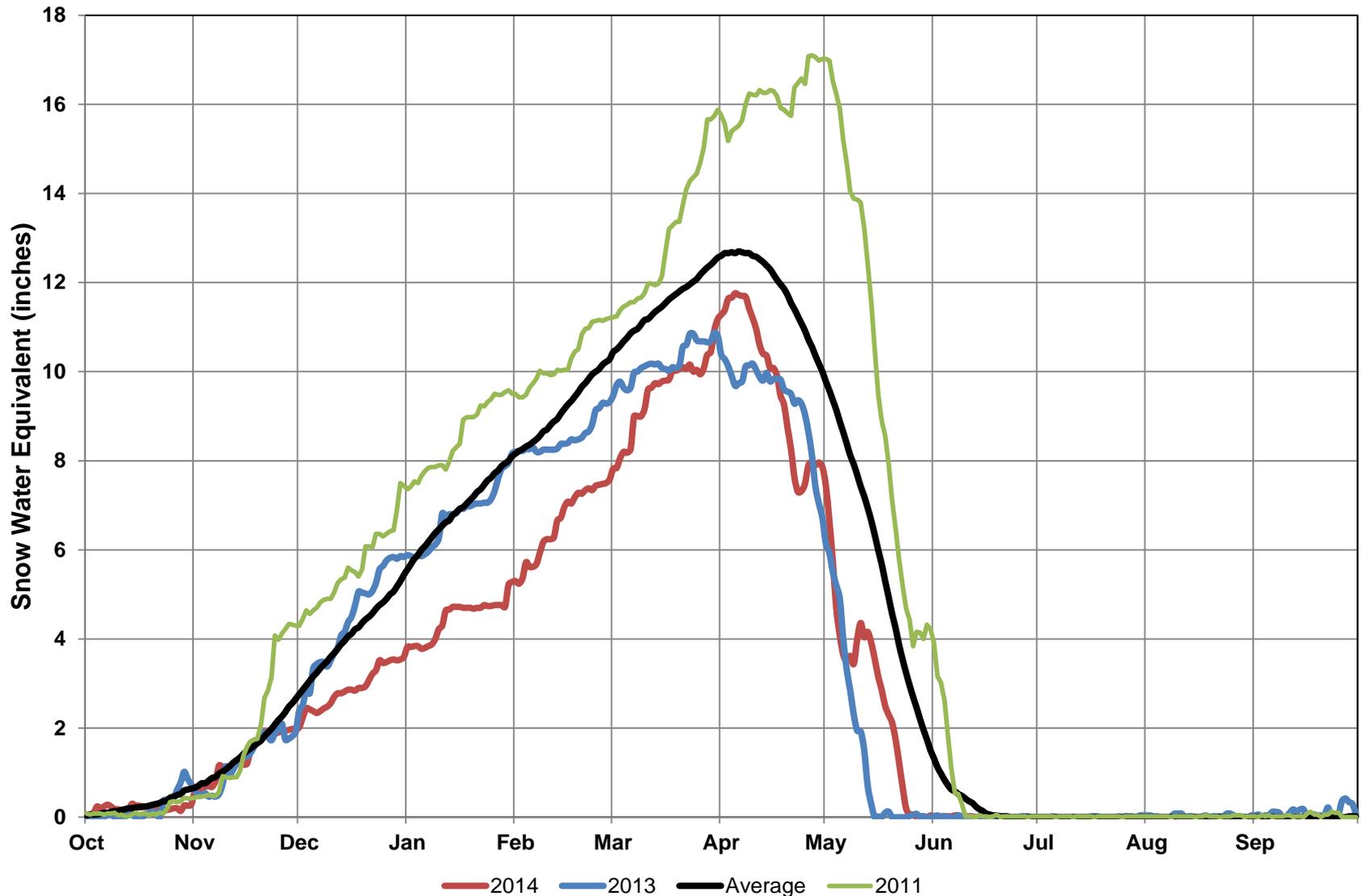


U.S. Department of the Interior
Bureau of Reclamation

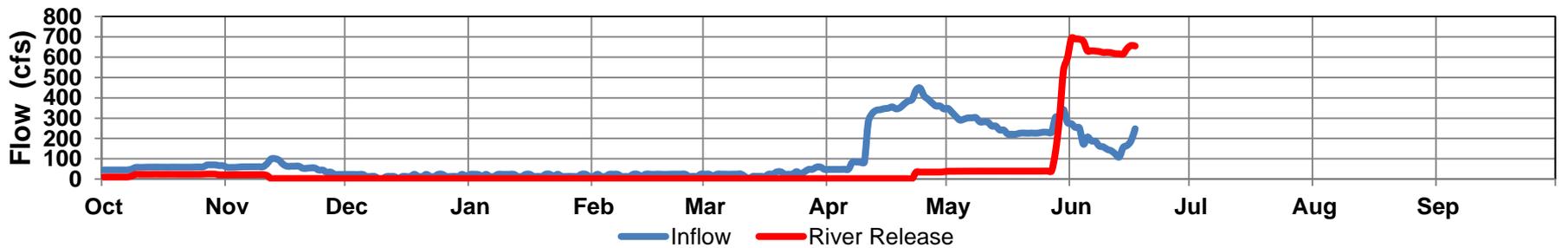
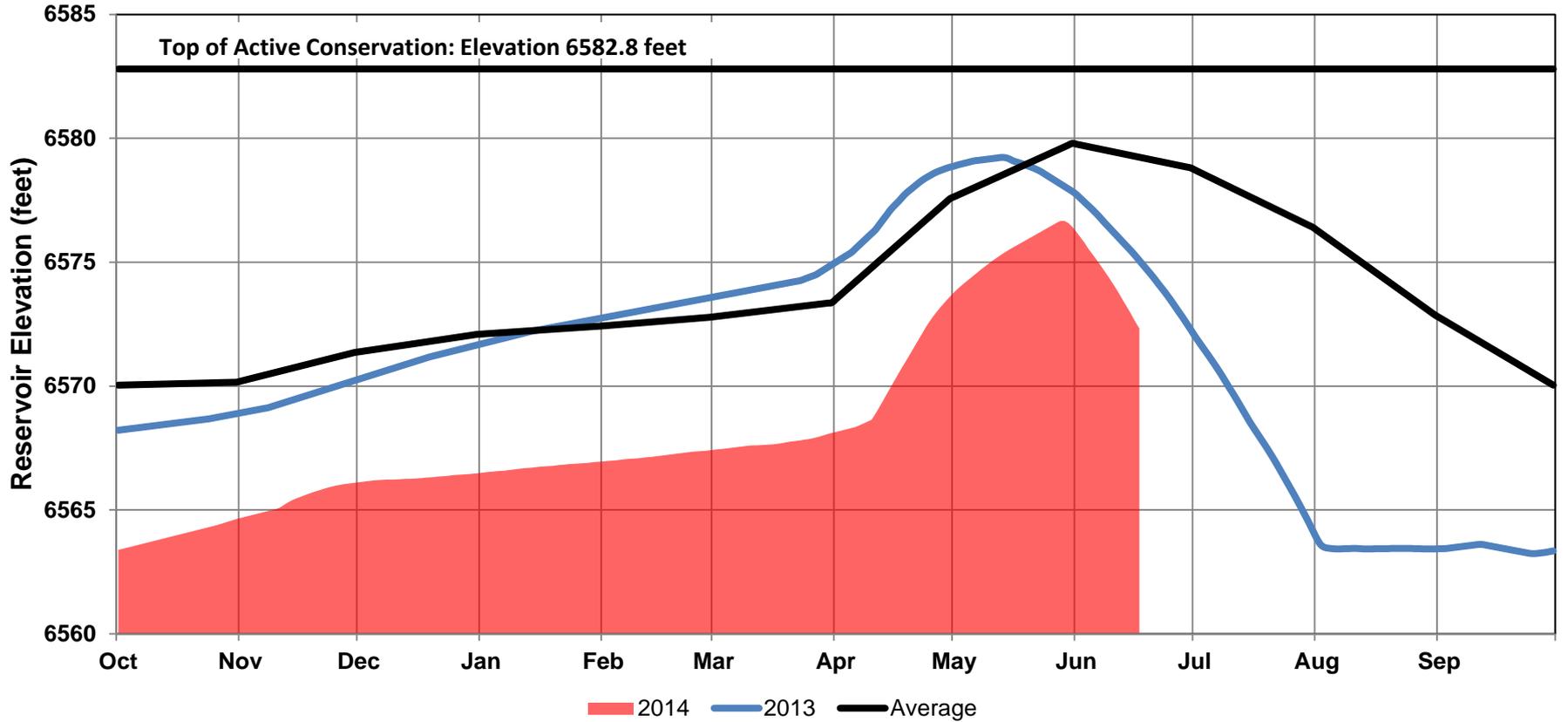


Reclamation: Montana Area Office
 Reservoir Storage Status : June 17, 2014

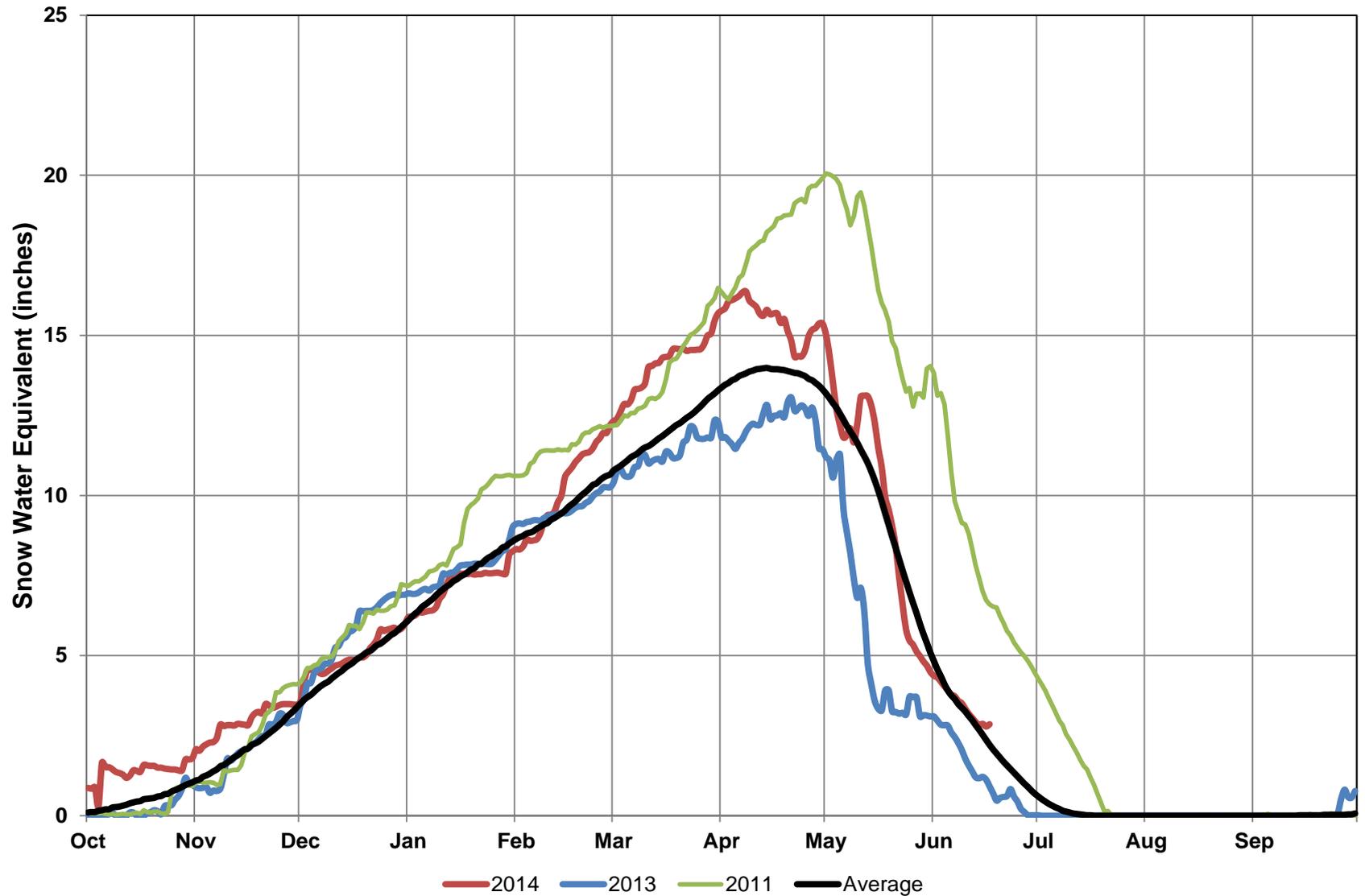
Snowpack above Lima Reservoir



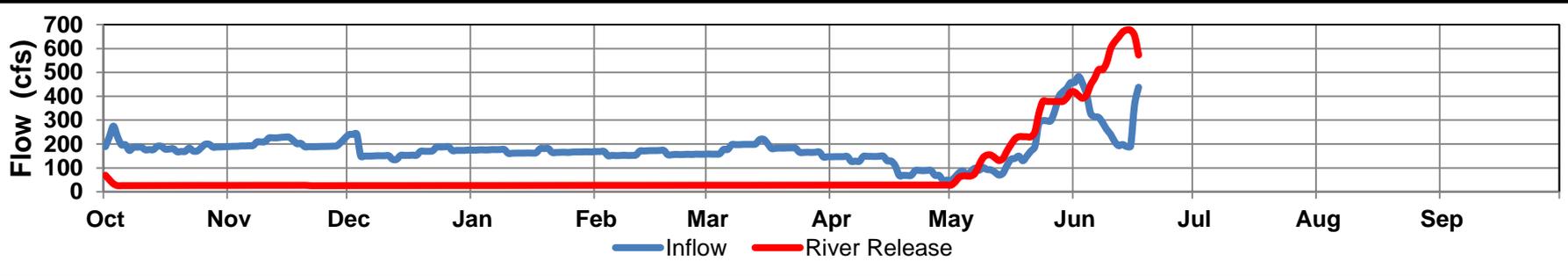
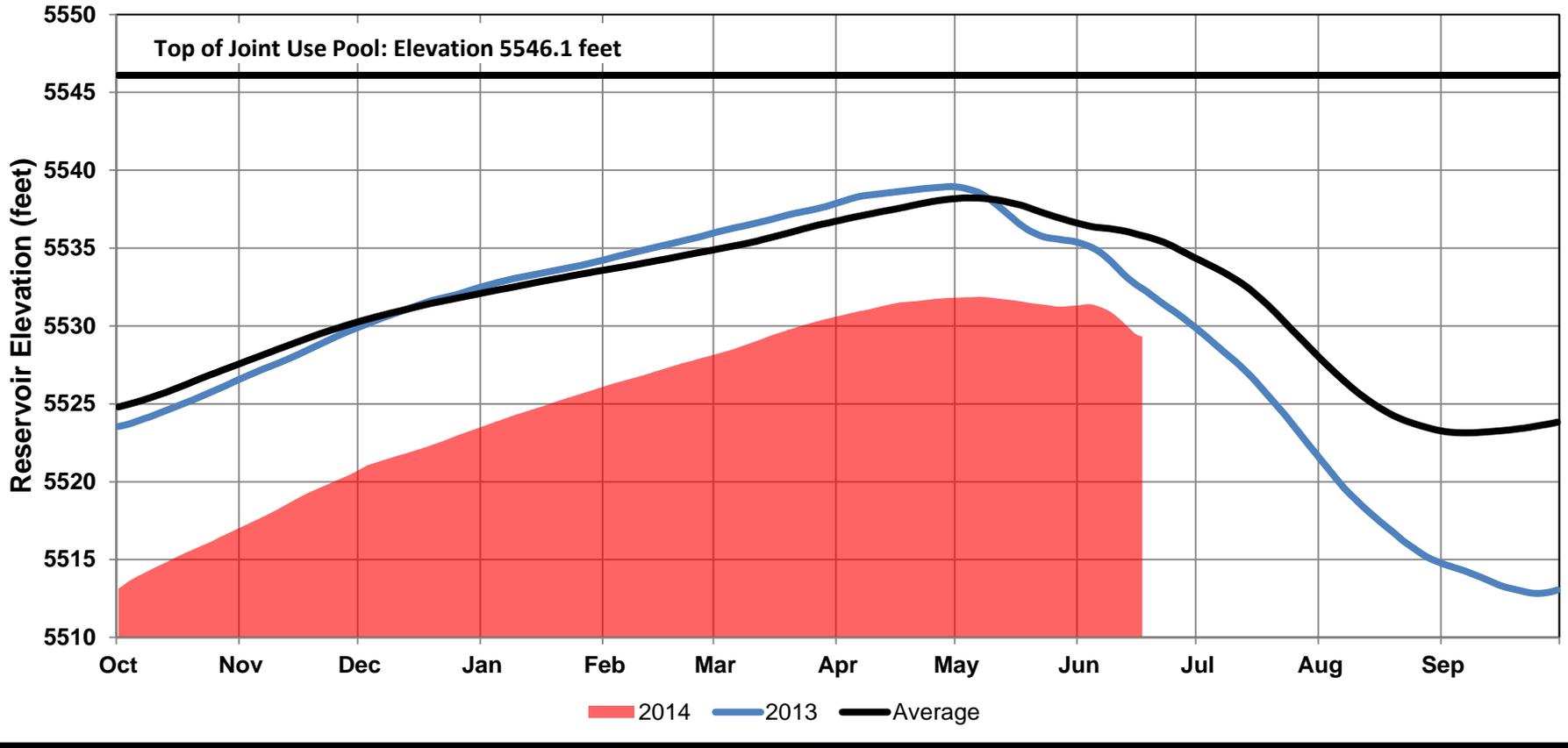
Lima Reservoir Operations



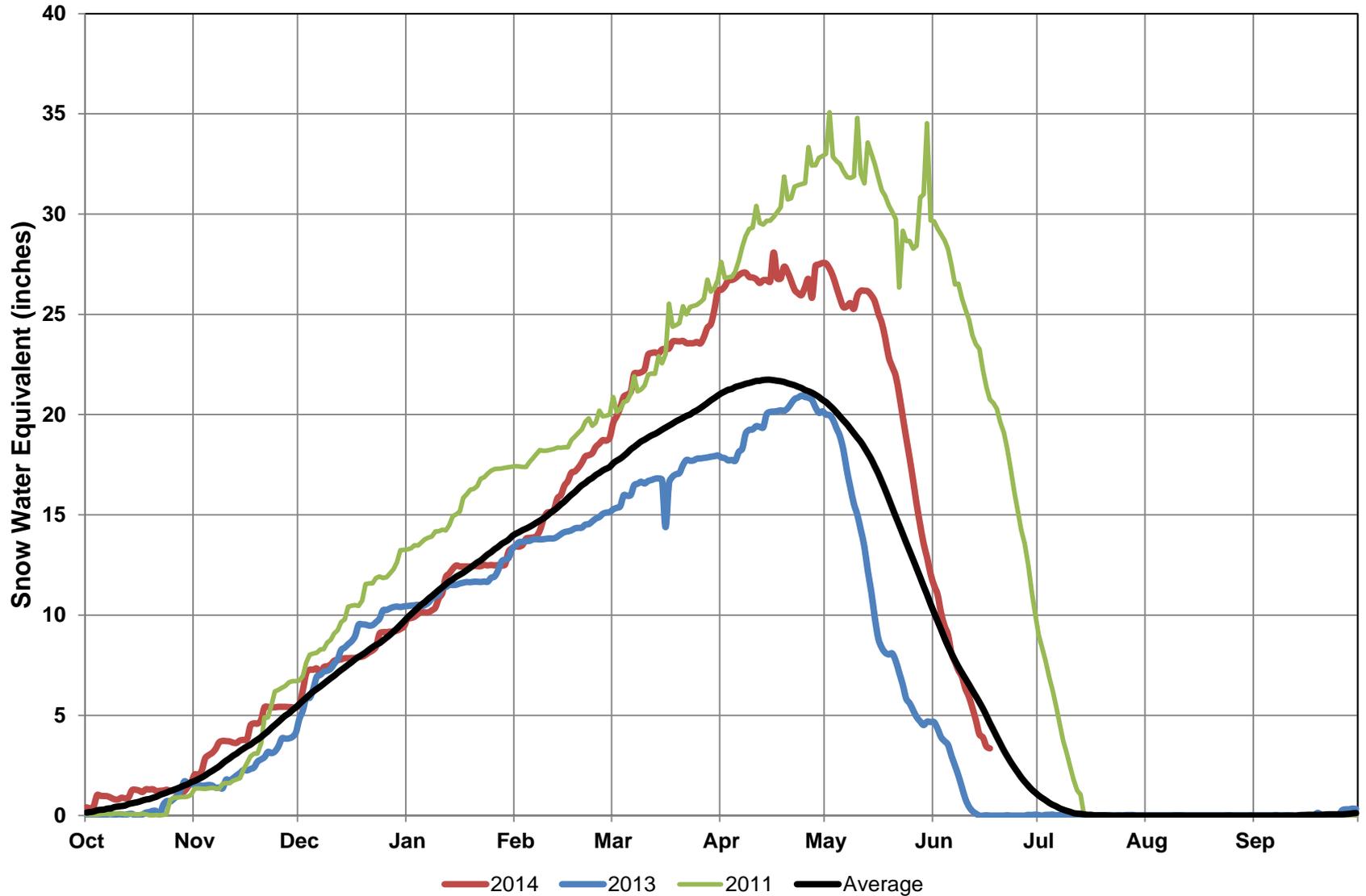
Snowpack above Clark Canyon Reservoir



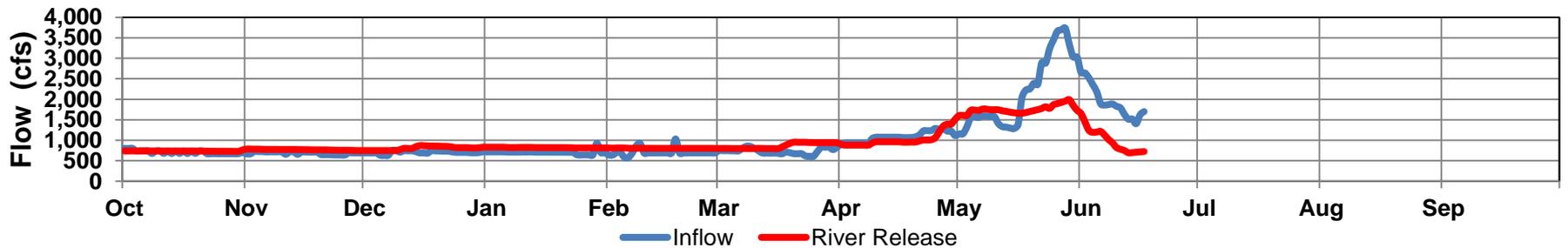
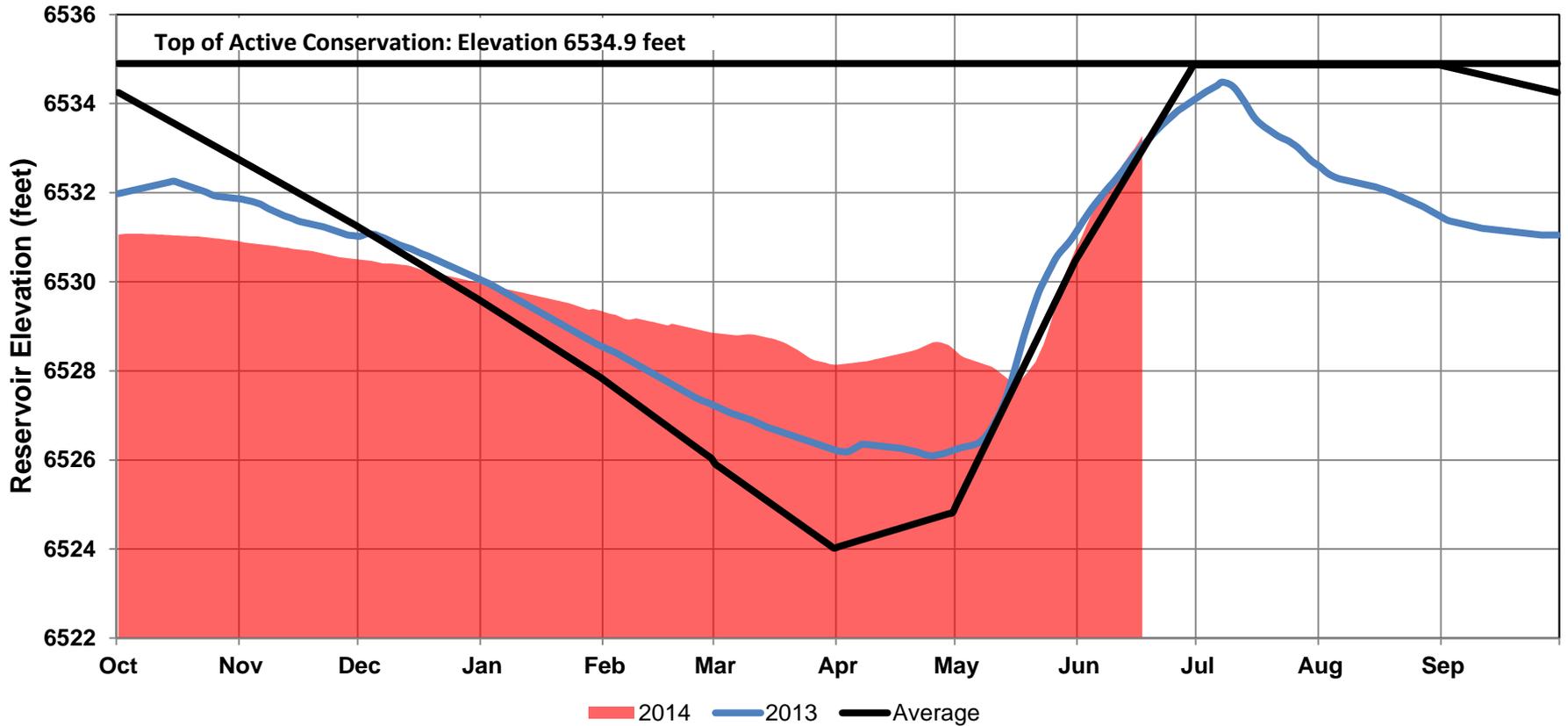
Clark Canyon Reservoir Operations



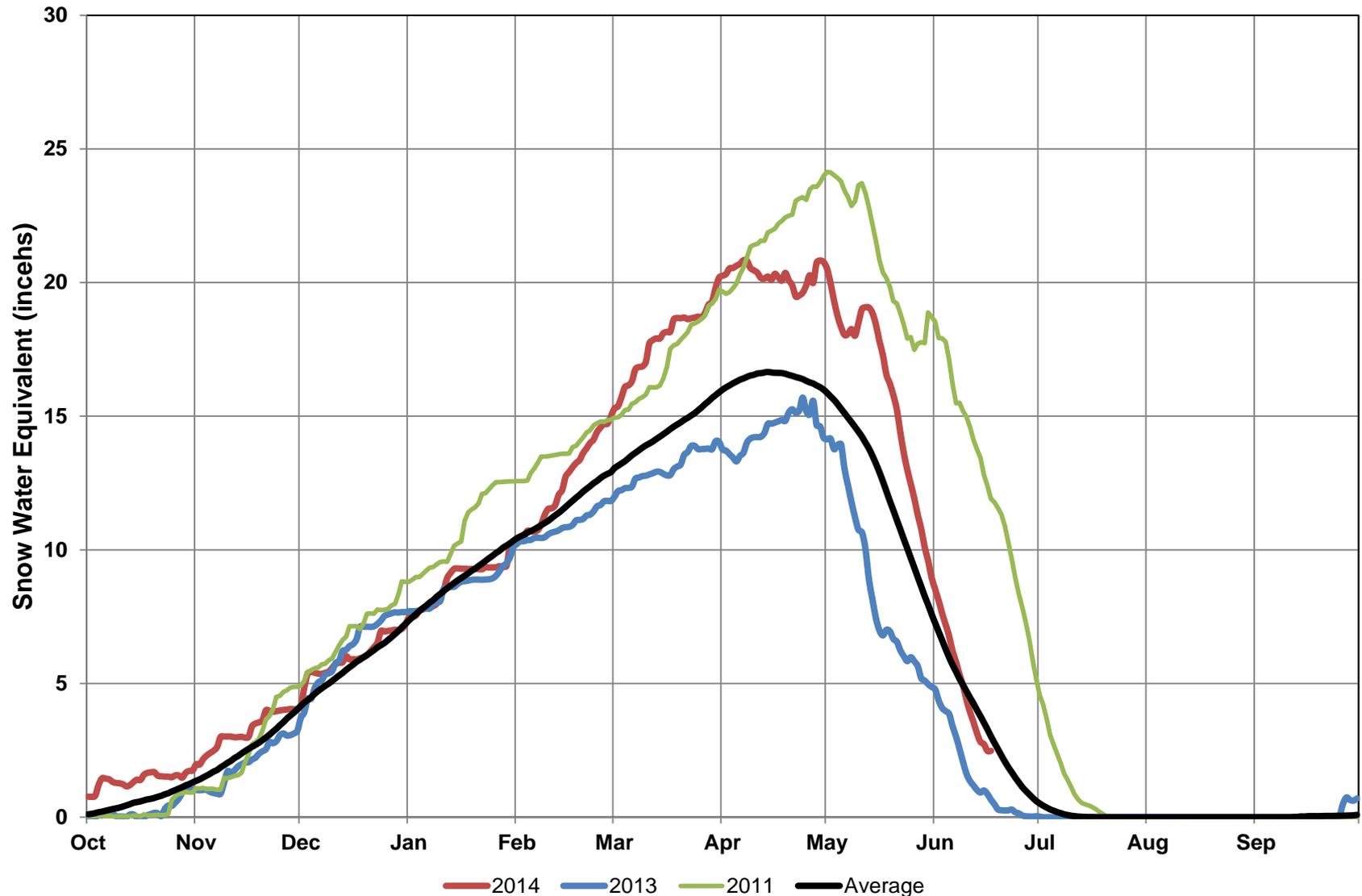
Snowpack above Hebgen Reservoir



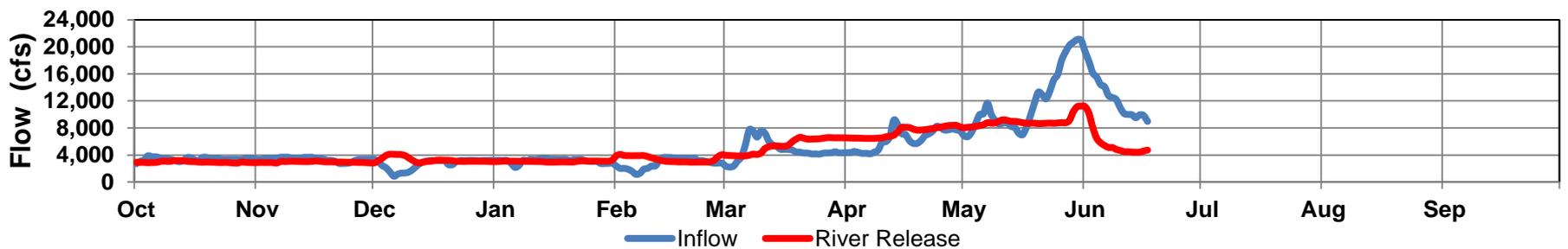
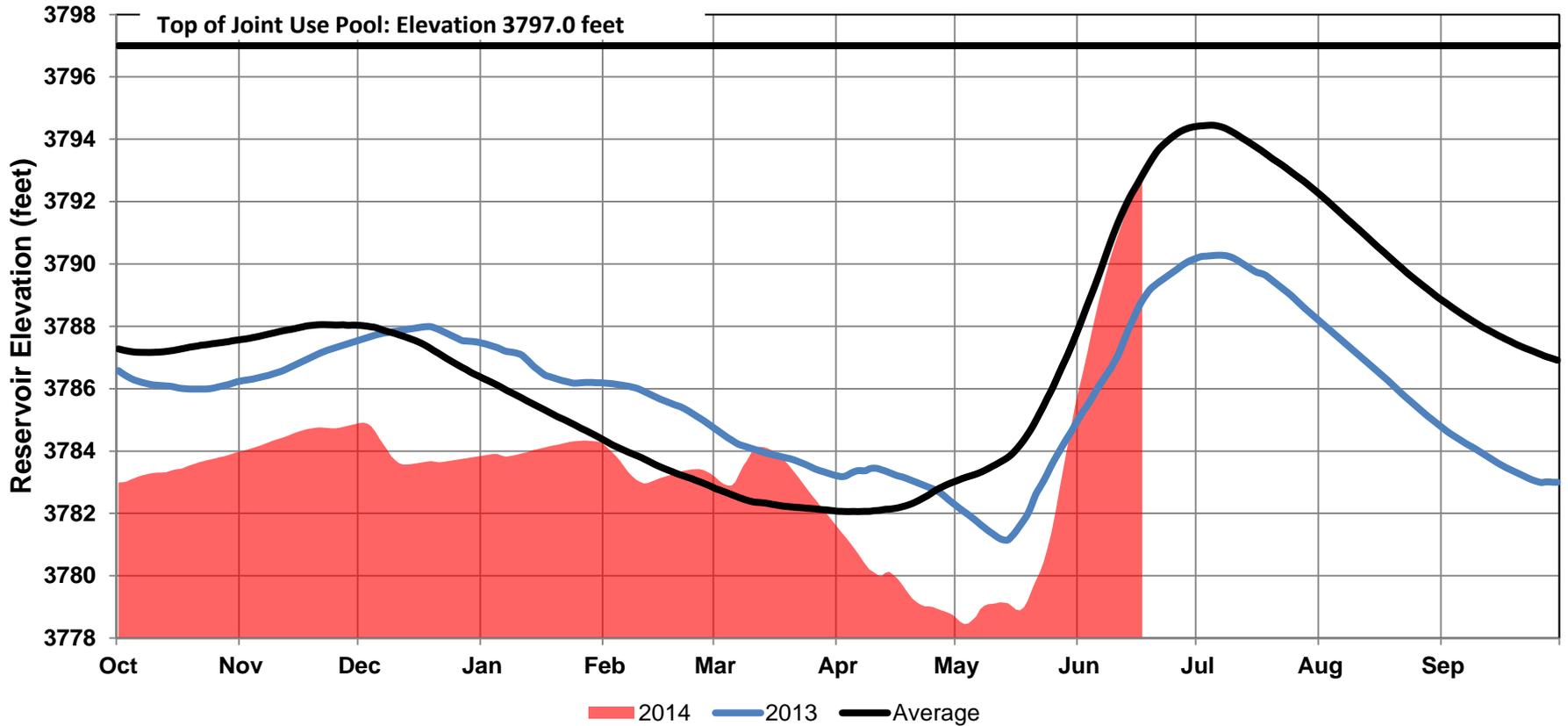
Hebgen Reservoir Operations



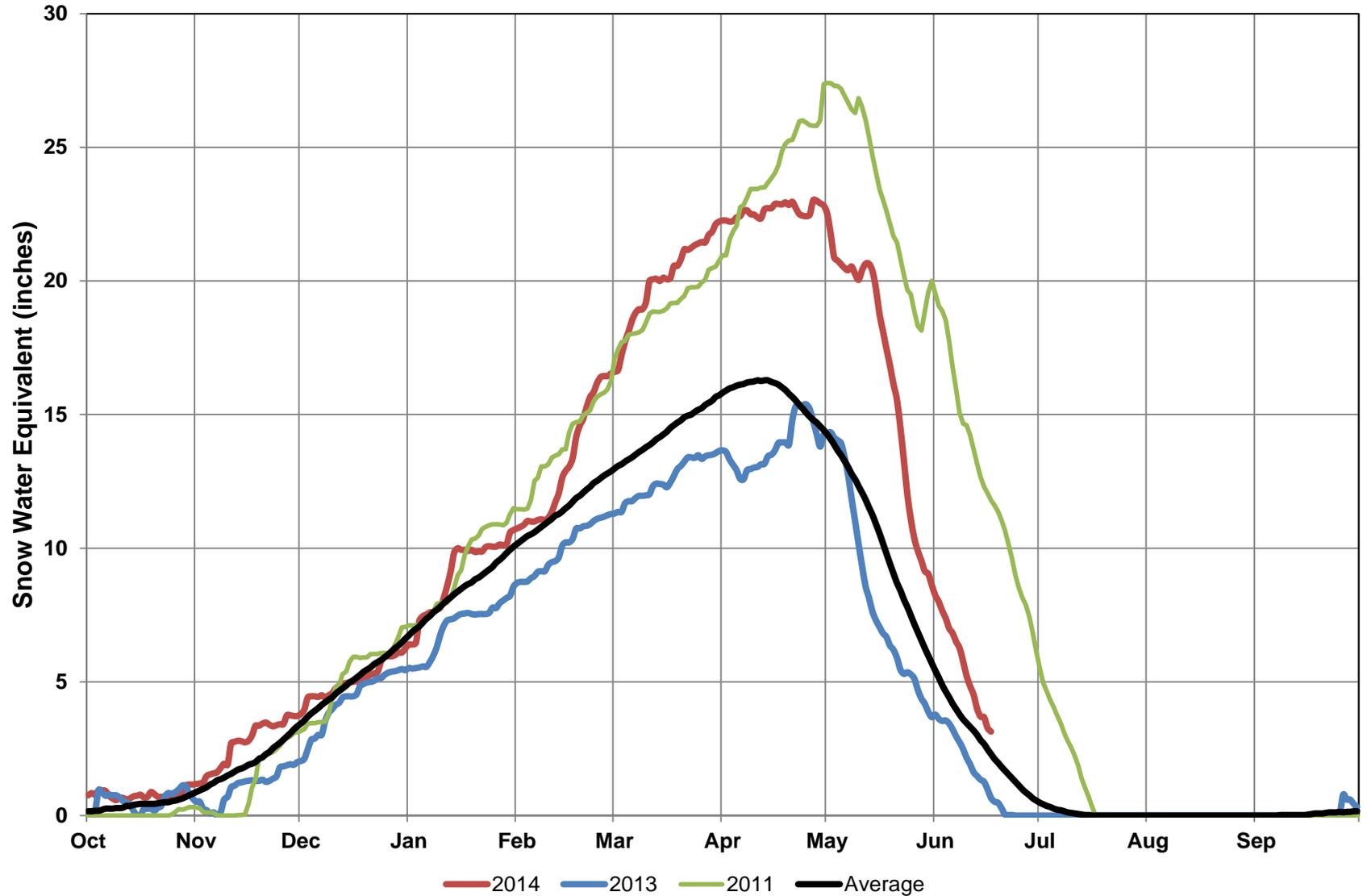
Snowpack above Canyon Ferry Reservoir



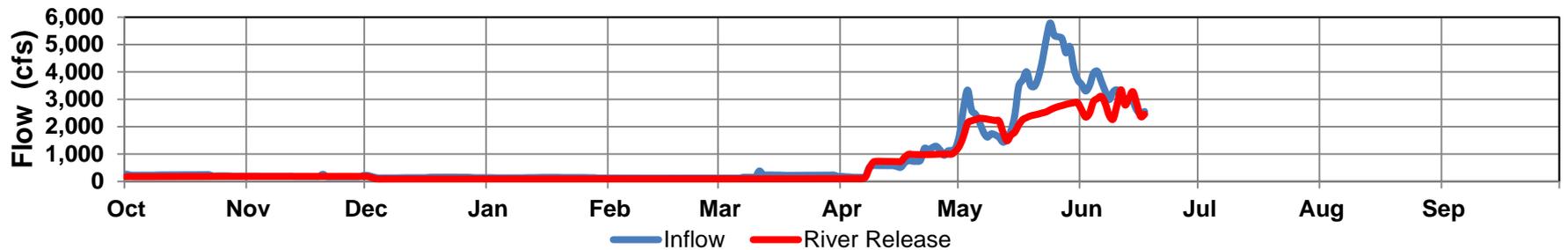
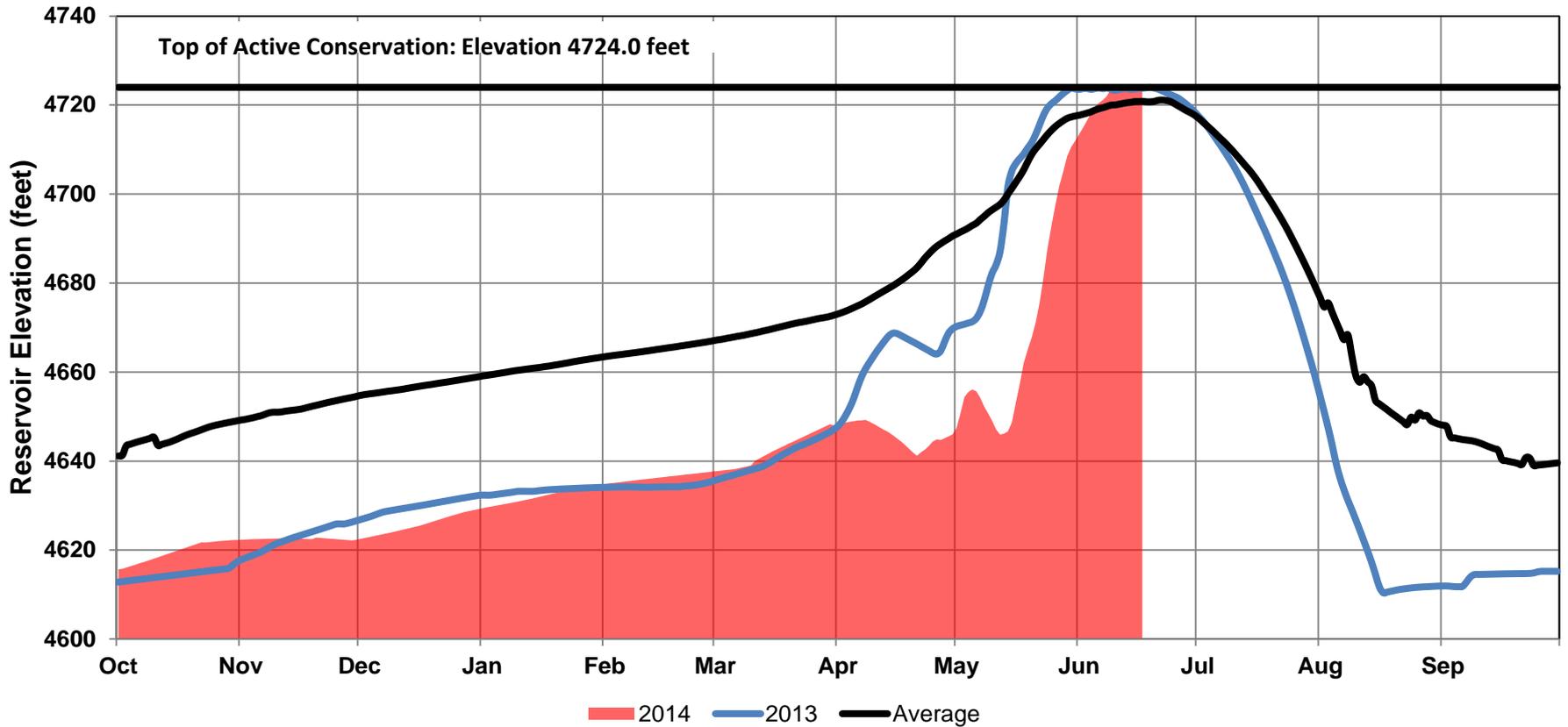
Canyon Ferry Reservoir Operations



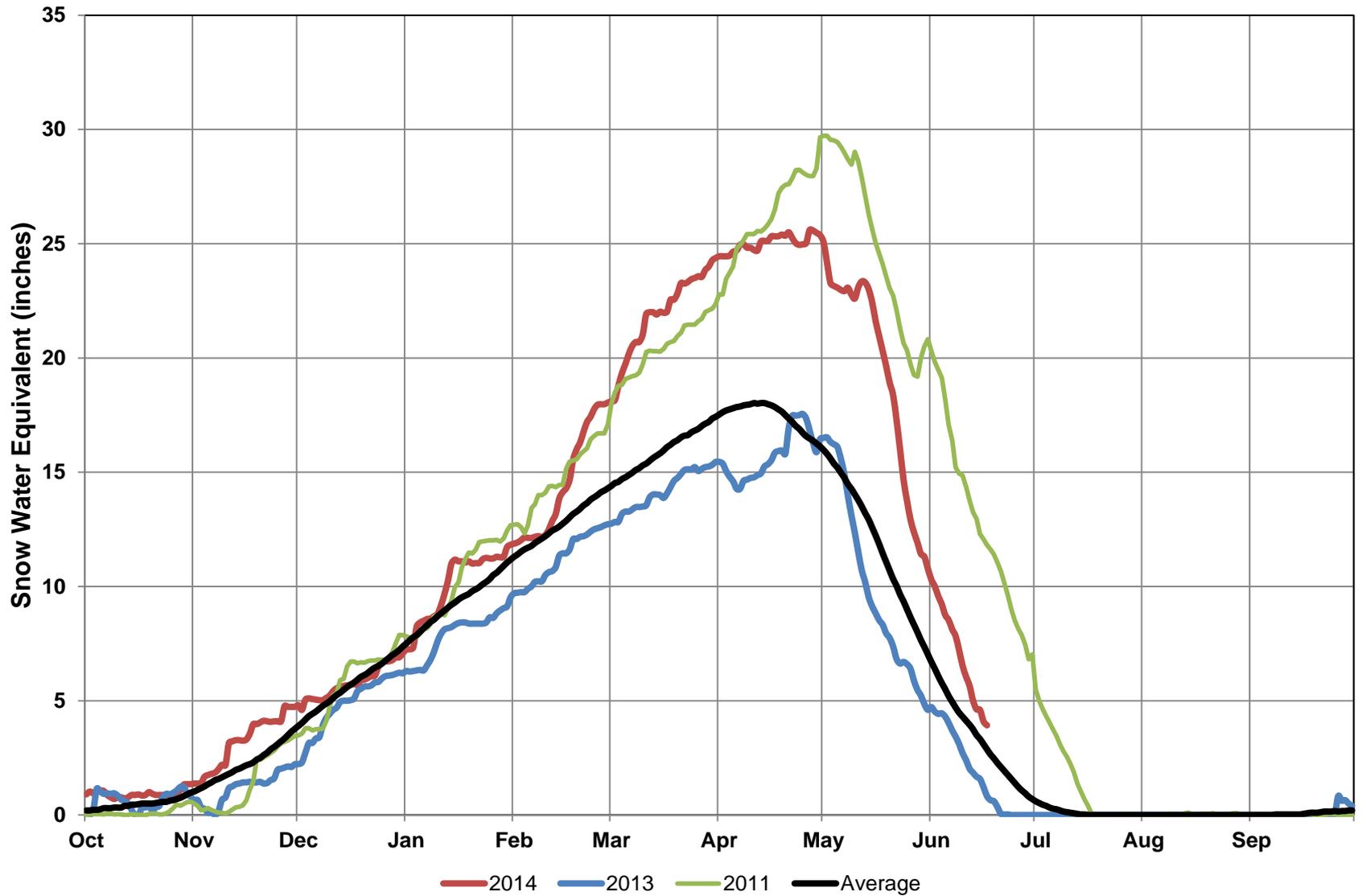
Snowpack above Gibson Reservoir



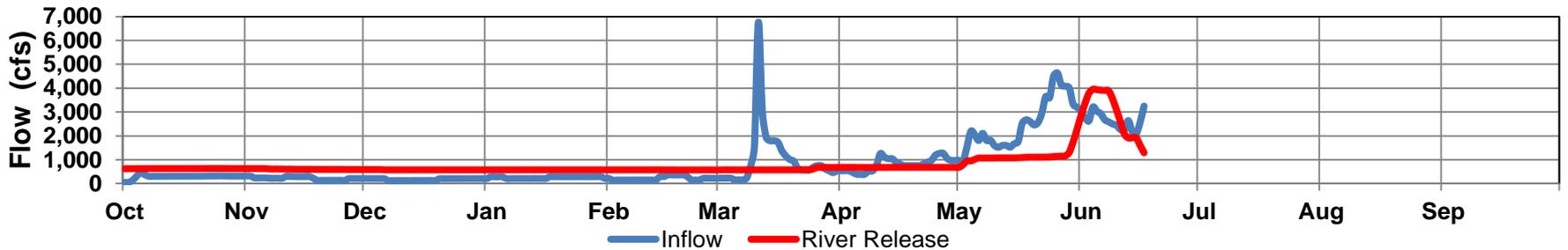
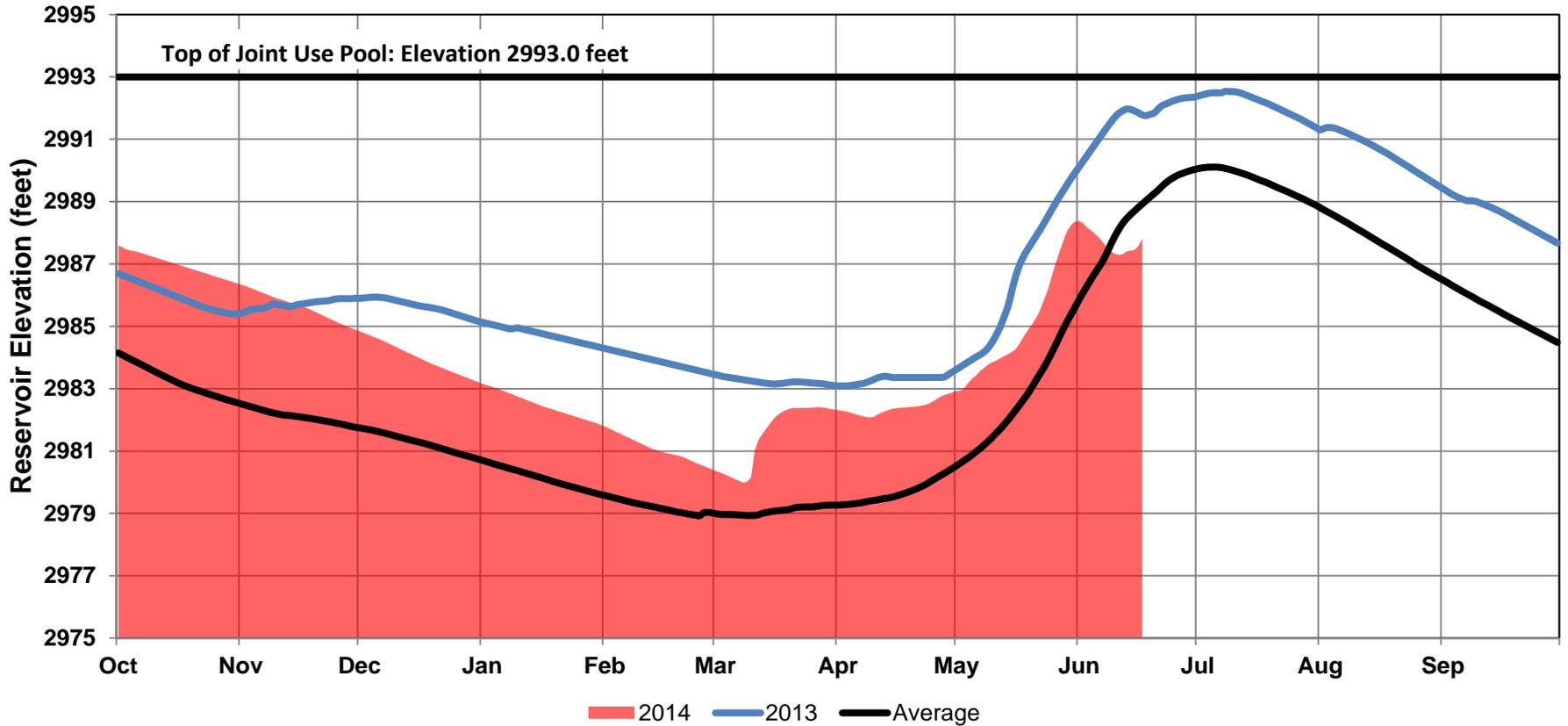
Gibson Reservoir Operations



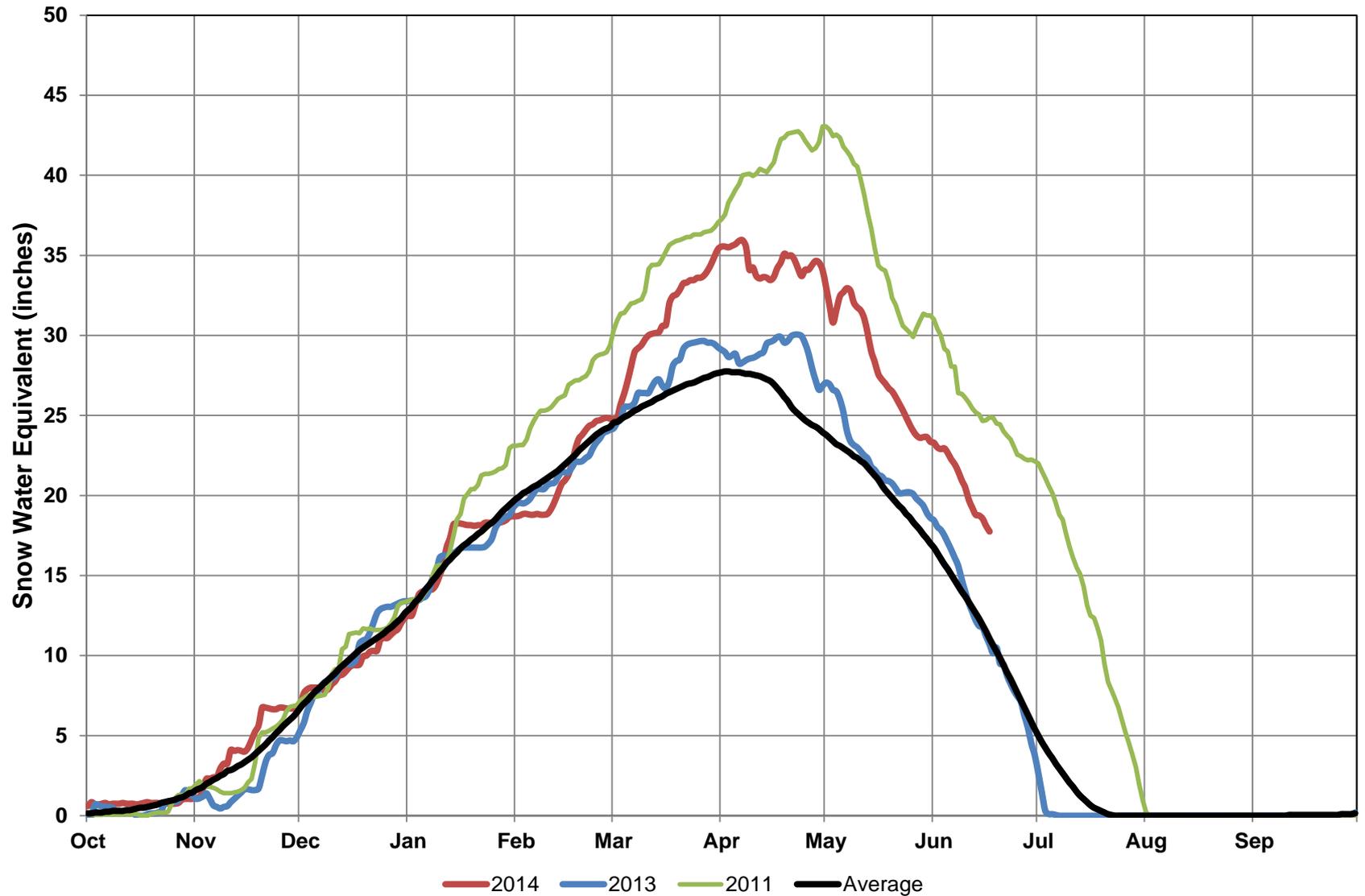
Snowpack above Lake Elwell



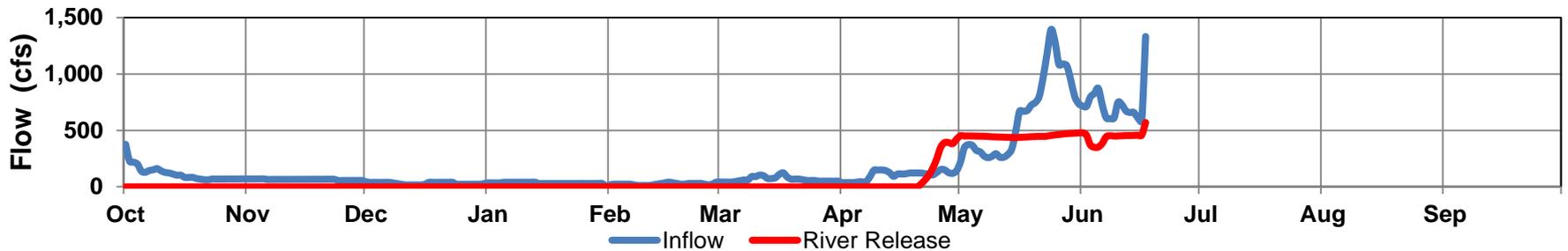
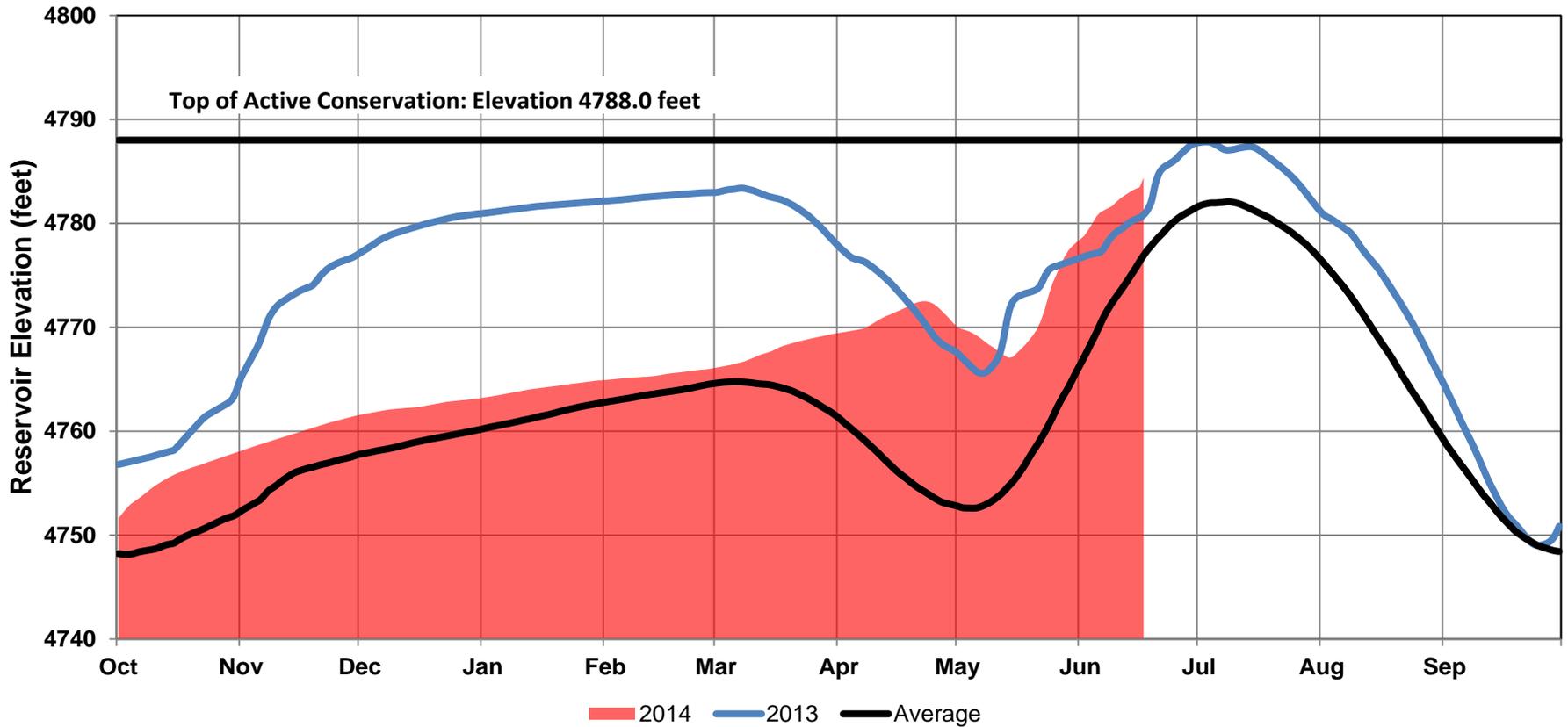
Lake Elwell (Tiber Dam) Operations



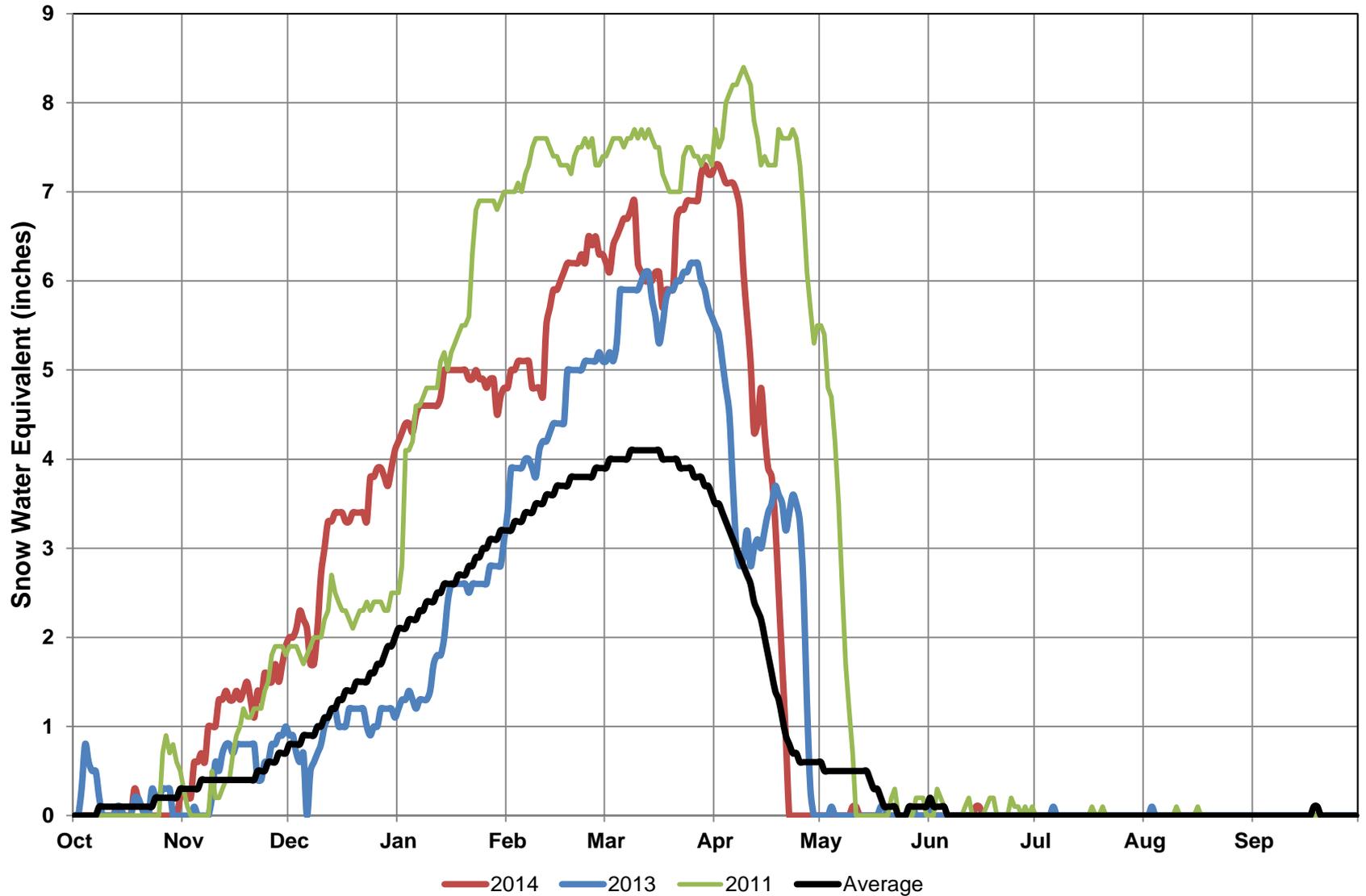
Snowpack above Lake Sherburne



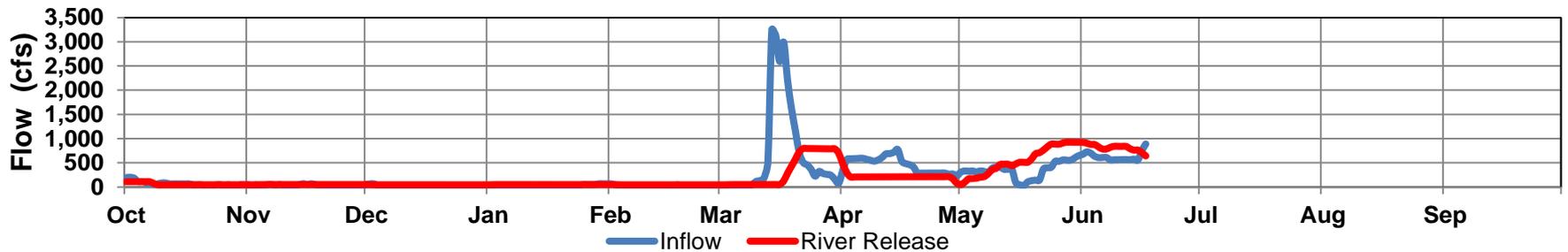
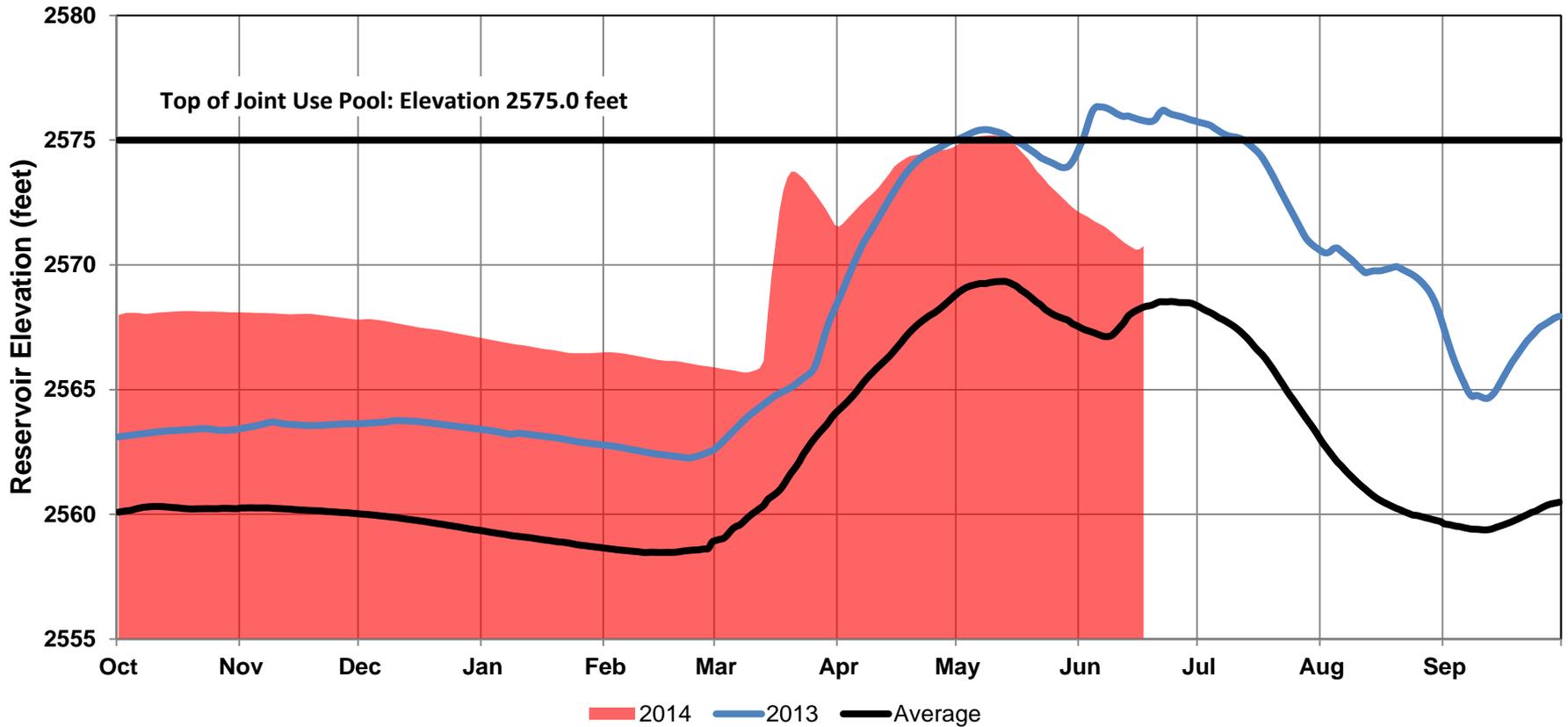
Lake Sherburne Operations



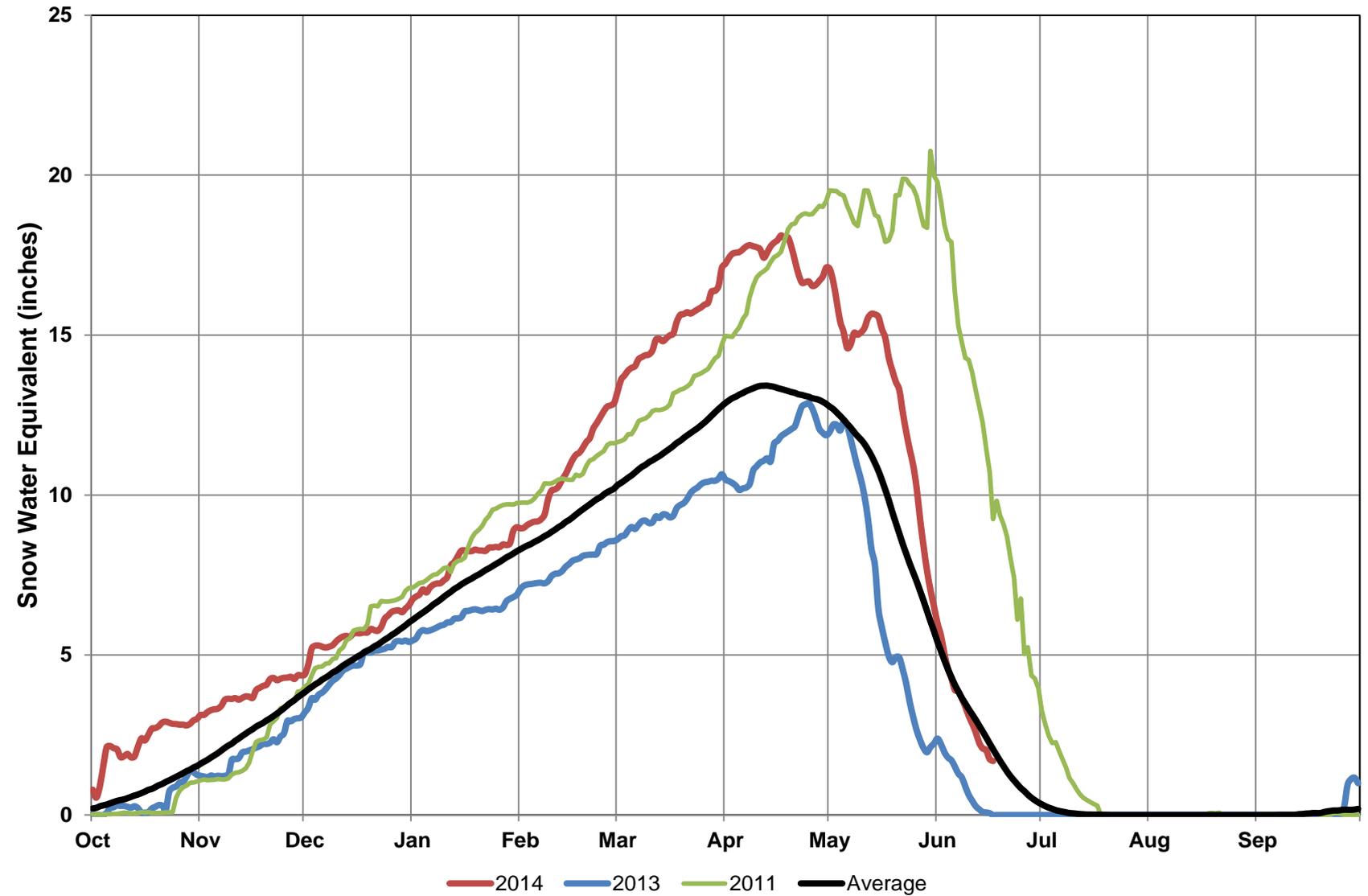
Snowpack above Fresno Reservoir



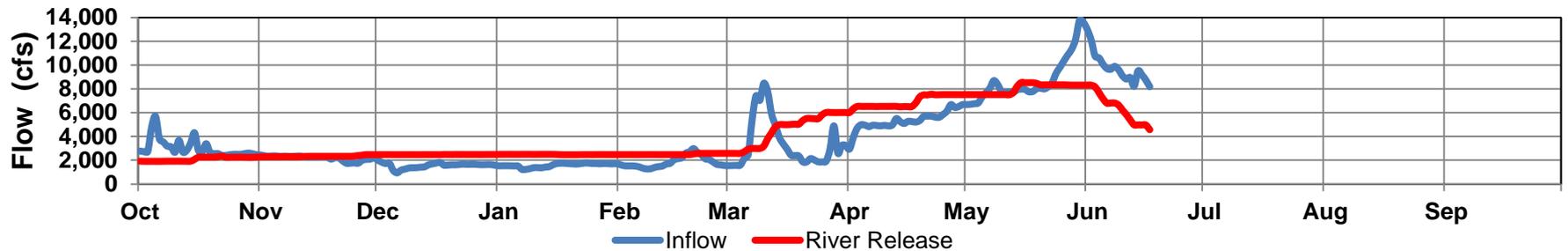
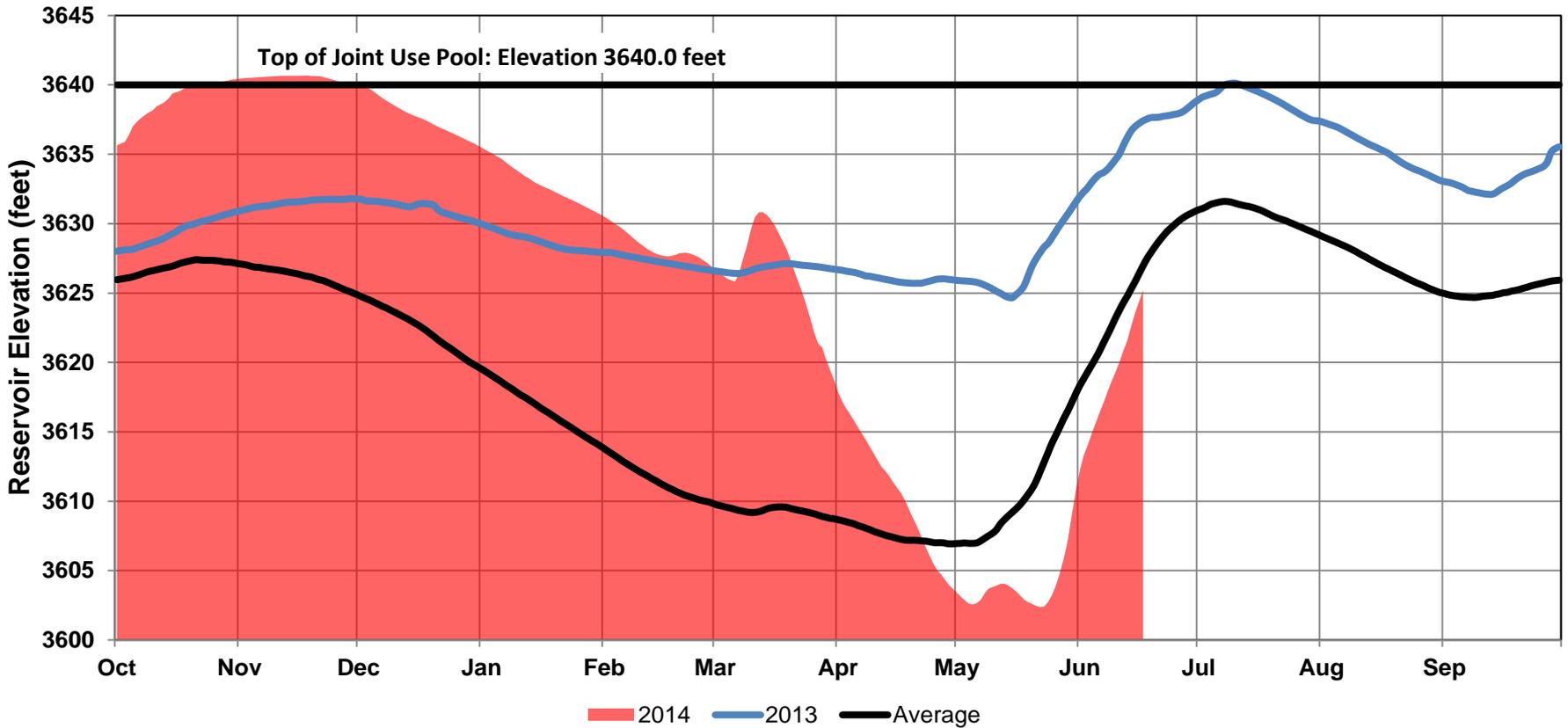
Fresno Reservoir Operations



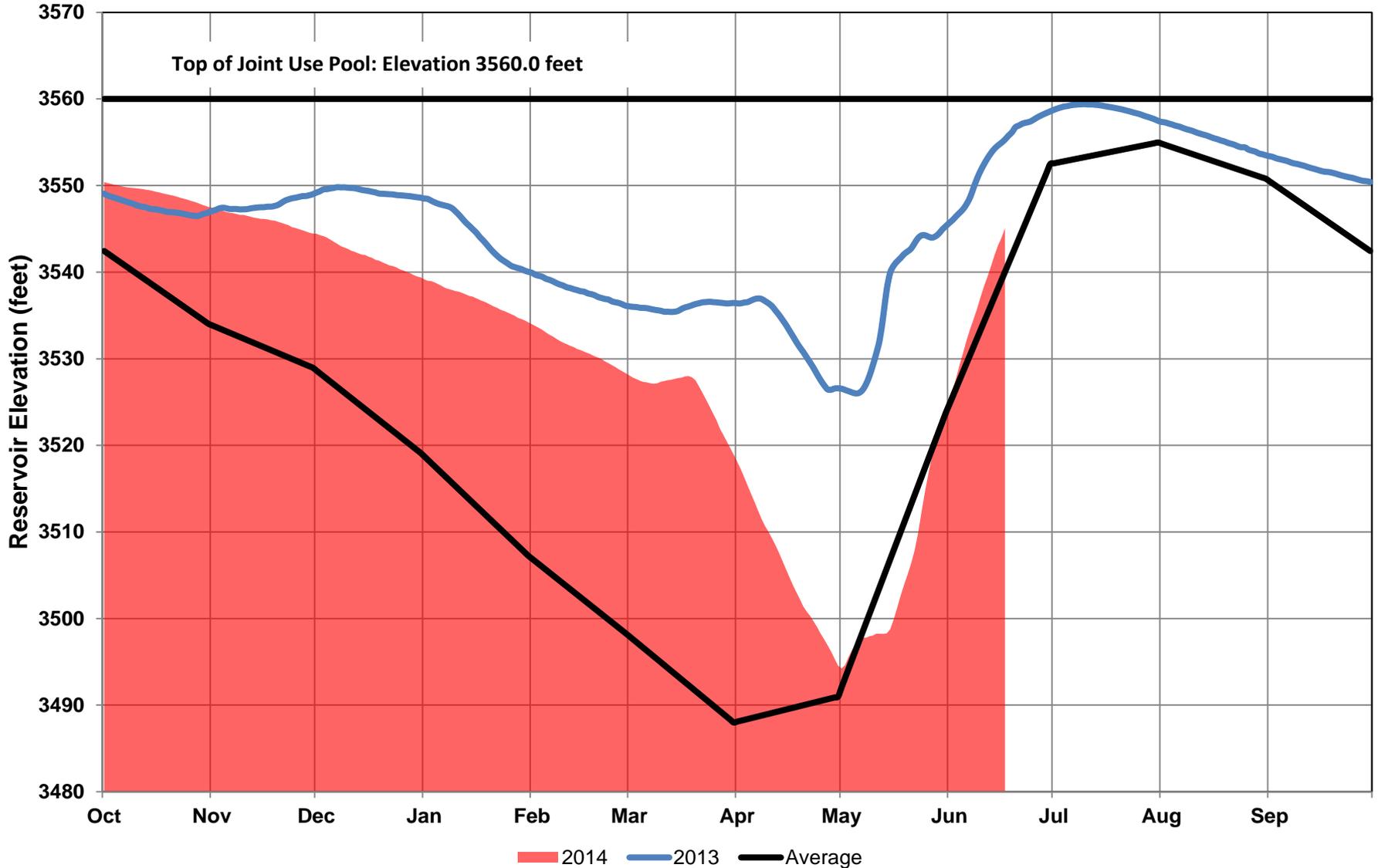
Snowpack above Bighorn Lake



Bighorn Lake (Yellowtail Dam) Operations



Hungry Horse Reservoir Operations



Summary of Reservoir Conditions

- **Peak inflows occurred last week of May through first week of June.**
- **Releases at most reservoirs have been decreased to conserve storage to ensure of filling.**
- **Recent rain storms have increased inflows and have assisted in filling reservoirs.**
- **Reservoirs may be filled in late June to mid July**

Reclamation's Internet Website

<http://www.usbr.gov/gp/hydromet/>

- near real-time data available through the HYDROMET data system
- summaries and plots of historical data
- annual reservoir operating plan publication
- monthly water supply reports
- project data
- snow plots
- links to related internet sites

RECLAMATION

USDA Farm Service Agency

Disaster Assistance

www.usda.fsa.gov/mt



United States Department of Agriculture
Farm Service Agency

MONTANA



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Welcome to the USDA Montana State Farm Service Agency (FSA) Website

Our primary mission at the U.S. Department of Agriculture Farm Service Agency is to assist Montana farmers and ranchers secure the greatest possible benefit from programs administered by FSA such as farm loans, commodity price support, disaster relief, conservation, or other available resources. The hard-working men and women of [Montana's 48 FSA county offices](#) are at the forefront of our efforts and remain the primary contact for program participation. We encourage you to speak with [the staff at your local FSA office](#) on how we can be of service. Our user friendly web site can help you learn more about FSA programs and services and help you [locate your local FSA Service Center](#).

Best Wishes,
Bruce Nelson
State Executive Director

Montana FSA State Office
P.O. Box 670
Bozeman, MT 59771
Phone: (406) 587-6872
Fax: (855) 546-0264
Website: www.fsa.usda.gov/mt

2014 FARM BILL UPDATES:

I Want To...

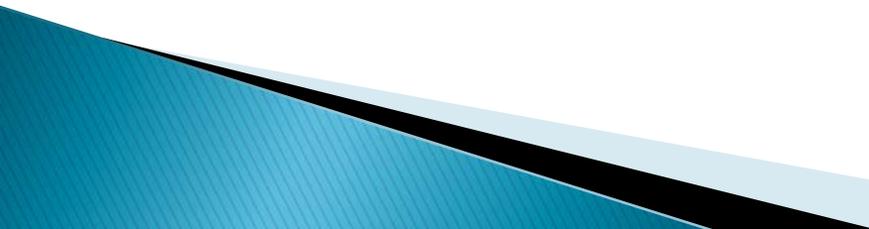
- ◊ [View a printable Montana FSA Office Directory](#)
- ◊ [View a printable Montana USDA Directory](#)
- ◊ [View areas - by county - open for nominations in the 2014 Montana FSA County Committee Elections](#)
- ◊ [View 2009-2013 Adjusted Gross Income \(AGI\) Compliance Materials](#)
- ◊ [View FSA's Program Factsheets](#)
- ◊ [View FSA's 2014 Farm Bill Page](#)
- ◊ [View the national BCAP Web site](#)
- ◊ [View County Loan Rates \(2010-2014\)](#)
- ◊ [View Montana's 2013 Reported Crops](#)
- ◊ [View Montana's 2012 Reported Crops](#)
- ◊ [View Montana's 2011 Reported Crops](#)

FSA Disaster Assistance

FSA DISASTER ASSISTANCE:

- FSA DISASTER ASSISTANCE: Visit [FSA's Disaster Assistance](#) website for information on FSA disaster programs.
- FSA EMERGENCY LOANS: View a [map of Montana counties designated as disaster areas in 2014](#) [HERE](#). (This is updated as designations are announced.) To apply for an Emergency Loan, [contact your local FSA office](#) to schedule an appointment with the Farm Loan Program staff serving your area.

Livestock Forage Assistance Program

- ▶ Eligible livestock producers
 - ▶ Suffered grazing losses due to drought or fire on pastureland
 - ▶ Has to be in a county designated on the US Drought Monitor
 - ▶ Designation has to be D2, D3, D4
 - ▶ Payments vary depending on the intensity of the drought
- 

Livestock Indemnity Program

- ▶ Eligible livestock producers for deaths in excess of normal mortality
 - ▶ Deaths have to be caused from an adverse weather condition
 - ▶ Also covers deaths from attacks by animals reintroduced into the wild by the federal government or protected by federal law including wolves and avian predators
- 

Emergency Assistance for Livestock, Honeybees and Farm-raised Fish

- ▶ Eligible livestock, honeybee or Farm-raised Fish producers may received compensation for losses due to disease (including cattle tick fever), adverse weather, or other conditions, such as blizzards and wildfires, not covered by LFP and LIP
- ▶ Hauling water to livestock

Emergency Conservation Program

- ▶ Compensation provided for damage to agricultural land due to fire or flood
 - ▶ Approved on a county-by-county basis
 - ▶ Based on county precipitation levels being 40 percent or greater loss of normal precipitation for the 4 most recent months
- 

Emergency Conservation Program

- ▶ Precipitation can be waived if county is designated as “D3” according to the US Drought Monitor
 - ▶ FSA County office receives approval through State or National FSA
- 

Non-Insured Crop Disaster Assistance Program (NAP)

- ▶ Provides assistance to producers if their land was damaged by a natural disaster
 - ▶ Crops must be covered under a NAP policy
 - ▶ Producer pays a premium
- 

Emergency Loan Program

- ▶ Has to be a Presidential or Secretarial Disaster Designation
- ▶ May be used to:
 - restore or replace essential property
 - pay for production costs associated with the disaster year
 - pay essential living expenses
 - reorganize the farming operation
 - refinance certain debts, excluding real estate

FSA Disaster Assistance

- ▶ All programs, except for the Emergency Loan Program do not need a disaster declaration
 - ▶ Livestock programs are permanent programs in the 2014 Farm Bill
 - ▶ Emergency Conservation Program is applied for by the County FSA office
- 

QUESTIONS?????????

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Bozeman, MT 59715

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Reservoir Storage Outlook

June 19, 2014



DNRC Water Resources Division
State Water Projects Bureau

Montana DNRC State Water Projects Bureau Reservoirs



Reservoir Contents Report May 15, 2014



**% Average
avg_may14**

●	0 - 50
●	51 - 75
●	76 - 96
●	97+



MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

WATER RESOURCES DIVISION - STATE WATER PROJECTS BUREAU

June 19, 2014

All Contents in Acre-Feet

RESERVOIR	TOTAL CAPACITY (includes dead storage)*	CONTENTS						READING DATE	COMMENTS	
		Full Pool	AVERAGE	Last Year	Last Month	PRESENT	% CAPACITY			%AVERAGE
		Contents	1960 - 2013	6/19/2013	5/31/2014	6/19/2014	6/19/2014			6/19/2014
ACKLEY	6,722	4,985	3,462	4,552	5,319	79	107	6/9/2014	elev.=4312.66	
BAIR	7,300	5,585	5,221	7,261	7,300	100	131	6/19/2014	elev.=5324.86	
COONEY	28,230	24,300	22,956	22,584	25,132	89	103	6/10/2014	elev.=4247.39 (25,042 AF)	
COTTONWOOD	1,900	1,394	1,009	1,987	1,987	105	143	5/29/2014	elev.=5102.83	
DEADMAN'S BASIN	75,968	53,947	52,640	74,686	72,700	96	135	6/16/2014	elev.=3919.4 (68,950 AF)	
E.F. ROCK CREEK	16,040	11,577	12,502	12,005	12,706	79	110	6/16/2014	elev.=6046.6	
FRENCHMAN	2,777	2,683	2,777	2,777	2,163	78	81	6/8/2014	elev.=2263.5	
MARTINSDALE	23,348	16,212	10,110	19,804	23,348	100	144	6/19/2014	elev.=4779.25	
MIDDLE CREEK	10,184	10,037	9,816	7,935	9,960	98	99	6/16/2014	elev.=6720.1	
NEVADA CREEK	11,207	10,592	8,022	11,522	11,152	100	105	6/13/2014	elev.=4615.85	
NILAN	10,992	8,622	6,410	10,662	10,662	97	124	6/13/2014	elev.=4441.95 (9,762 AF)	
N.FK. SMITH RIVER	11,406	10,019	11,146	11,553	11,553	101	115	6/10/2014	elev.=5488.77	
RUBY RIVER	37,612	36,289	30,879	37,612	36,247	96	100	6/17/2014	elev.= 5391.60	
TONGUE RIVER	79,071	71,068	80,644	83,489	82,021	104	115	6/16/2014	elev.=3429.2-spilling	
W.F. BITTERROOT	32,362	31,968	32,362	34,305	33,542	104	105	6/9/2014	elev.=4727.2	
WILLOW CREEK	18,000	16,326	12,933	16,725	16,805	93	103	6/10/2014	elev.=4734.5	
YELLOWATER	3,842	1,592	3,008	3,366	3,366	88	211	5/28/2014	elev.=3117.5	

* Note: Reservoir contents include dead storage at the following:

Ackley	1001 AF	**	** O&M slope storage table does not include dead storage (so dead storage has to be added into the storage from the table)
Cooney	90 AF	**	Tongue River 711 AF (O&M storage table includes dead storage)
Deadman's	3750 AF	**	W. F. Bitterroot 656 AF (O&M storage table includes dead storage)
Nilan	900 AF	**	Willow Creek 269 AF (O&M storage table includes dead storage)

* Note: Cooney capacity reflects capacity after 1982 dam rehabilitation; prior capacity was 24,195 A.F.. Average storage shown is for post rehabilitation data.

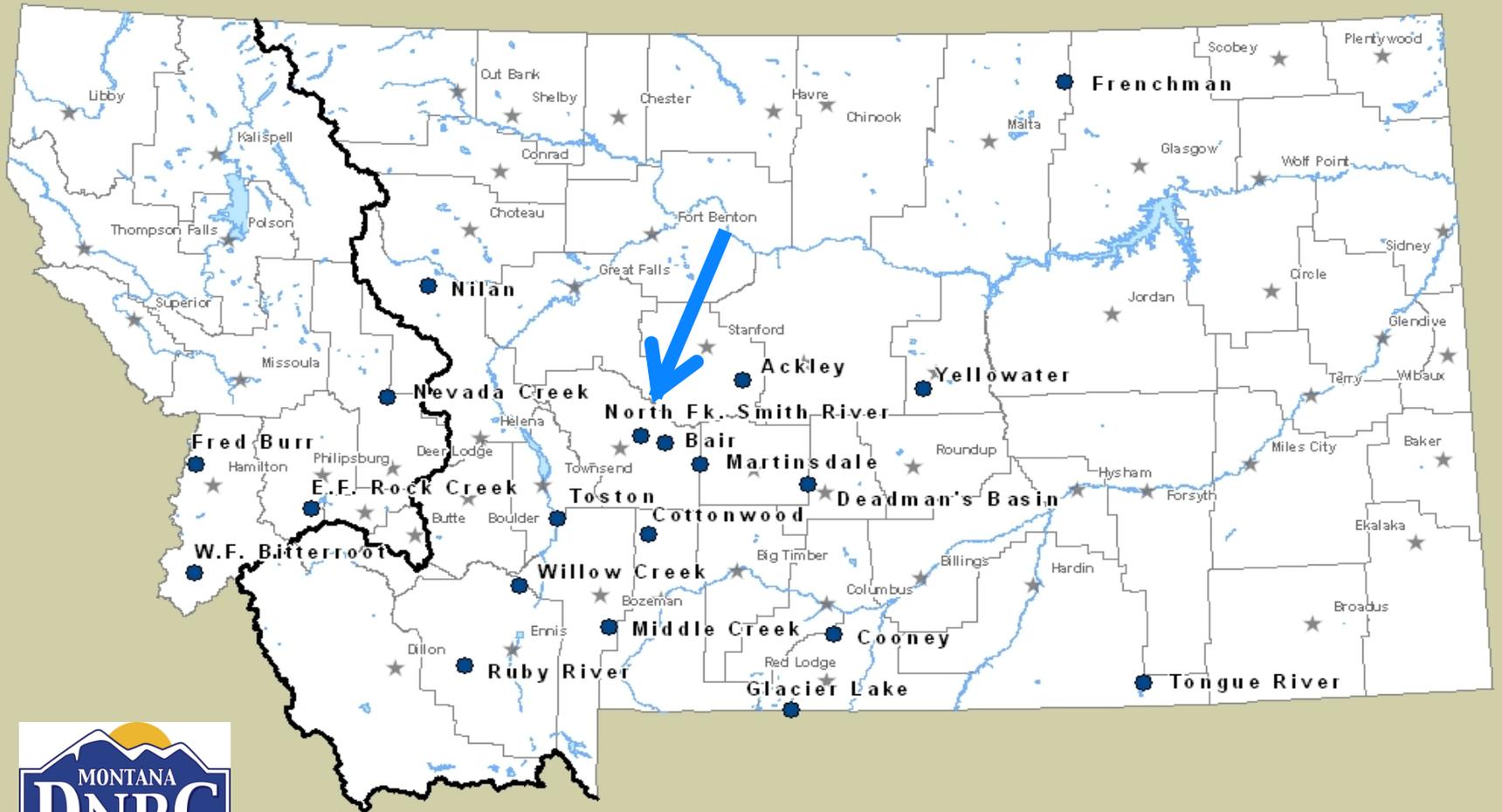
* Note: Middle Creek capacity reflects capacity after 1993 dam rehabilitation; prior capacity was 8,027 A.F.. Average storage shown is for post rehabilitation data.

* Note: Nevada Creek Reservoir Capacity reflects live storage capacity survey conducted in year 2000. Prior live storage capacity documented as 12,723 AF.

* Note: Tongue River capacity reflects capacity after 1999 dam rehabilitation; prior capacity was 68,040 A.F.. Average storage is post rehabilitation data.

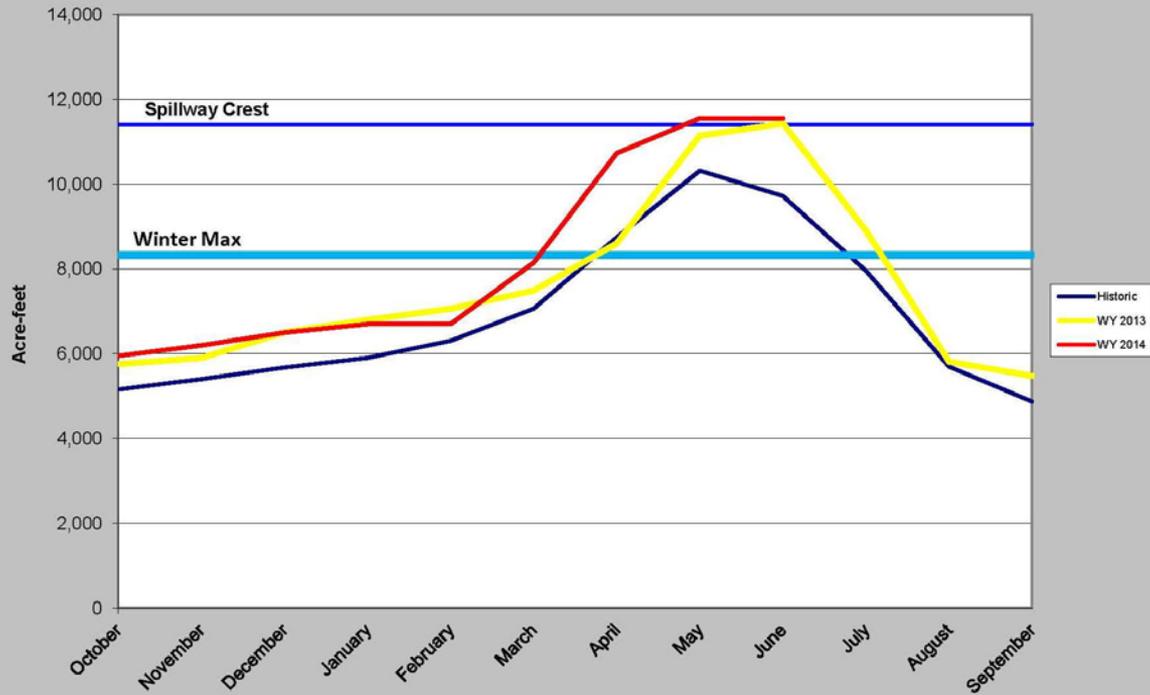
* Note: Frenchman Reservoir capacity tables updated based on aerial survey; prior capacity was 3752 A.F. Average shown is pre aerial survey

Montana DNRC State Water Projects Bureau Reservoirs



North Fork Smith River

(Historic, WY 2013, and WY 2014)



- 100% Capacity
- 11,553 Acre-Feet
- Reservoir is spilling
- Water Supply is favorable

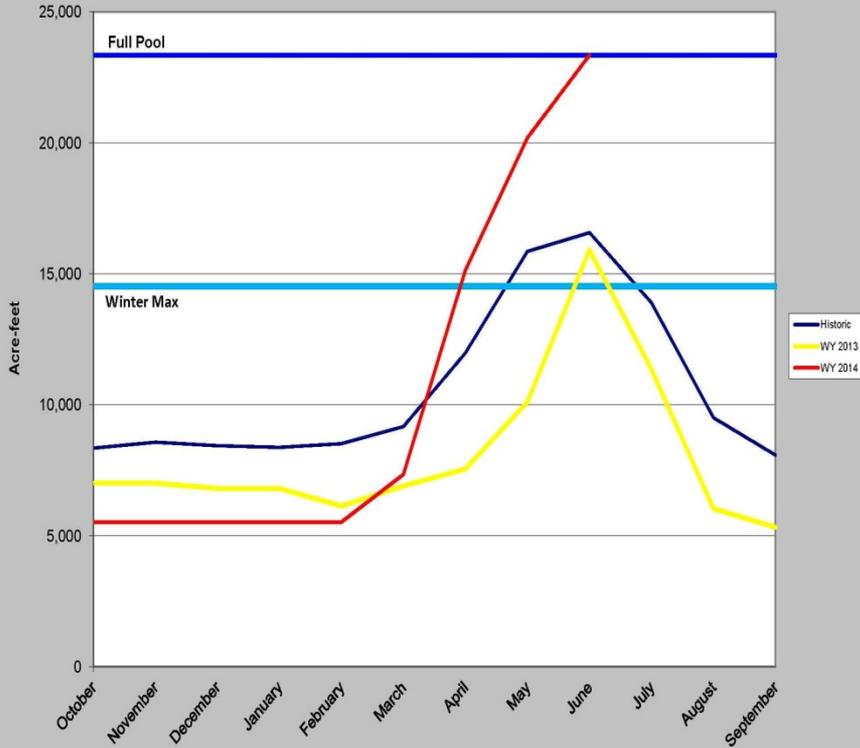


Montana DNRC State Water Projects Bureau Reservoirs

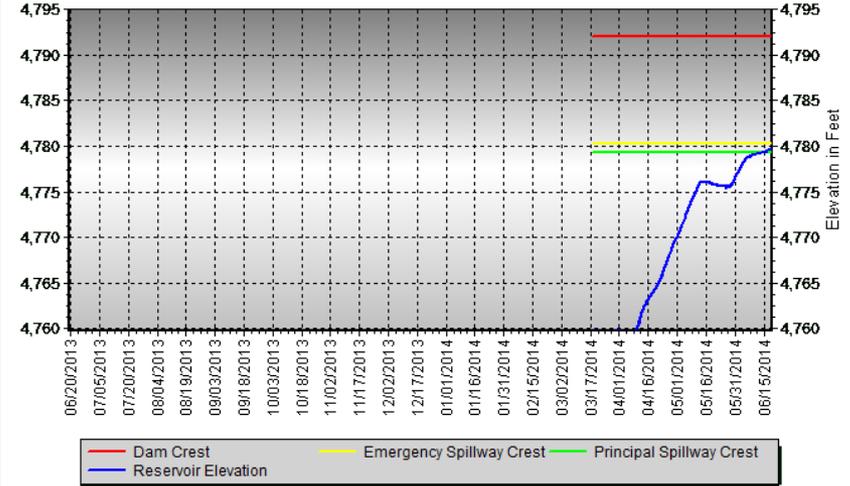


Martinsdale Reservoir

(Historic, WY 2013, and WY 2014)



MARTINSDALE DAM RESERVOIR ELEVATION — 365 DAYS



TIME OF LAST READING	6/19/2014 6:00:00 AM	REFERENCE INFORMATION	FT (MSL)	AC-FT
RESERVOIR ELEVATION	4,779.6 FT	DAM CREST	4792.0	38,958
RESERVOIR VOLUME	23,673 AF	EMERGENCY SPILLWAY CREST	4780.25	24,350
*NOTE: RESERVOIR ELEVATIONS BELOW 4759.78 FT ARE NOT VALID DUE TO INSTRUMENTATION LIMITATIONS.		PRINCIPAL SPILLWAY CREST	4779.25	23,348
		TRANSDUCER CASE DEPTH	4759.78	8,444

*** PROVISIONAL DATA SUBJECT TO REVISION ***



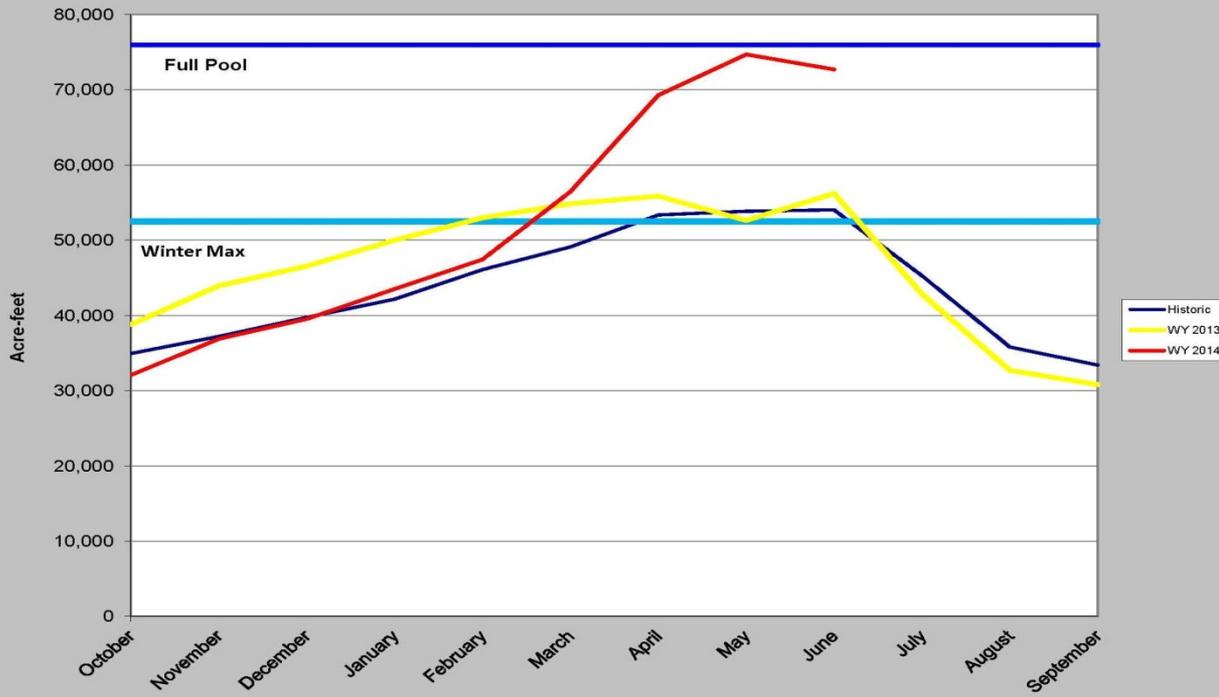
- 100% Capacity
- 23,673 Acre-Feet
- Elev.=4,779.6
- Inflows= 0cfs
- Outflows = 0 cfs
- Water Supply is favorable

Montana DNRC State Water Projects Bureau Reservoirs



Deadman's Basin

(Historic, WY 2013, and WY 2014)



- 96% Capacity
- 72,700 Acre-Feet
- Elev. = 3919.4
- Inflow ~ 25 cfs
- Water Supply is favorable

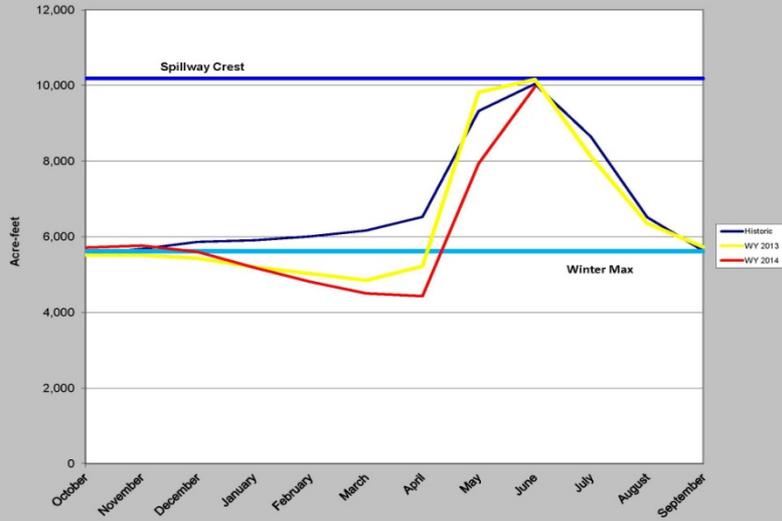


Montana DNRC State Water Projects Bureau Reservoirs

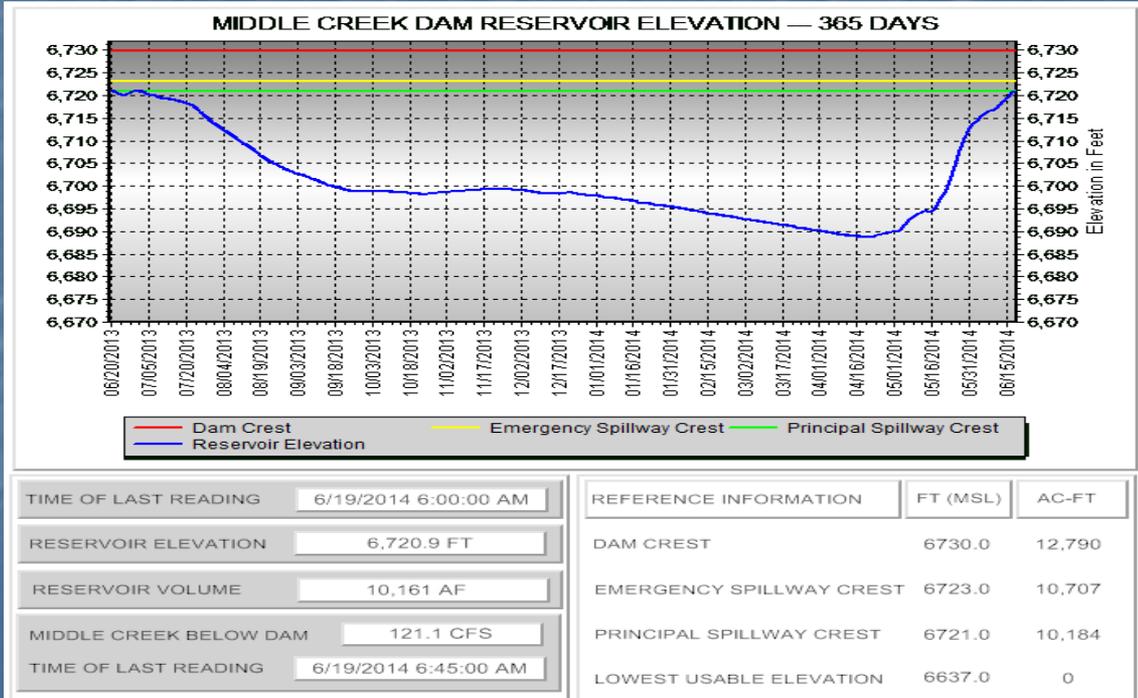


Middle Creek Reservoir

(Historic, WY 2013, and WY 2014)

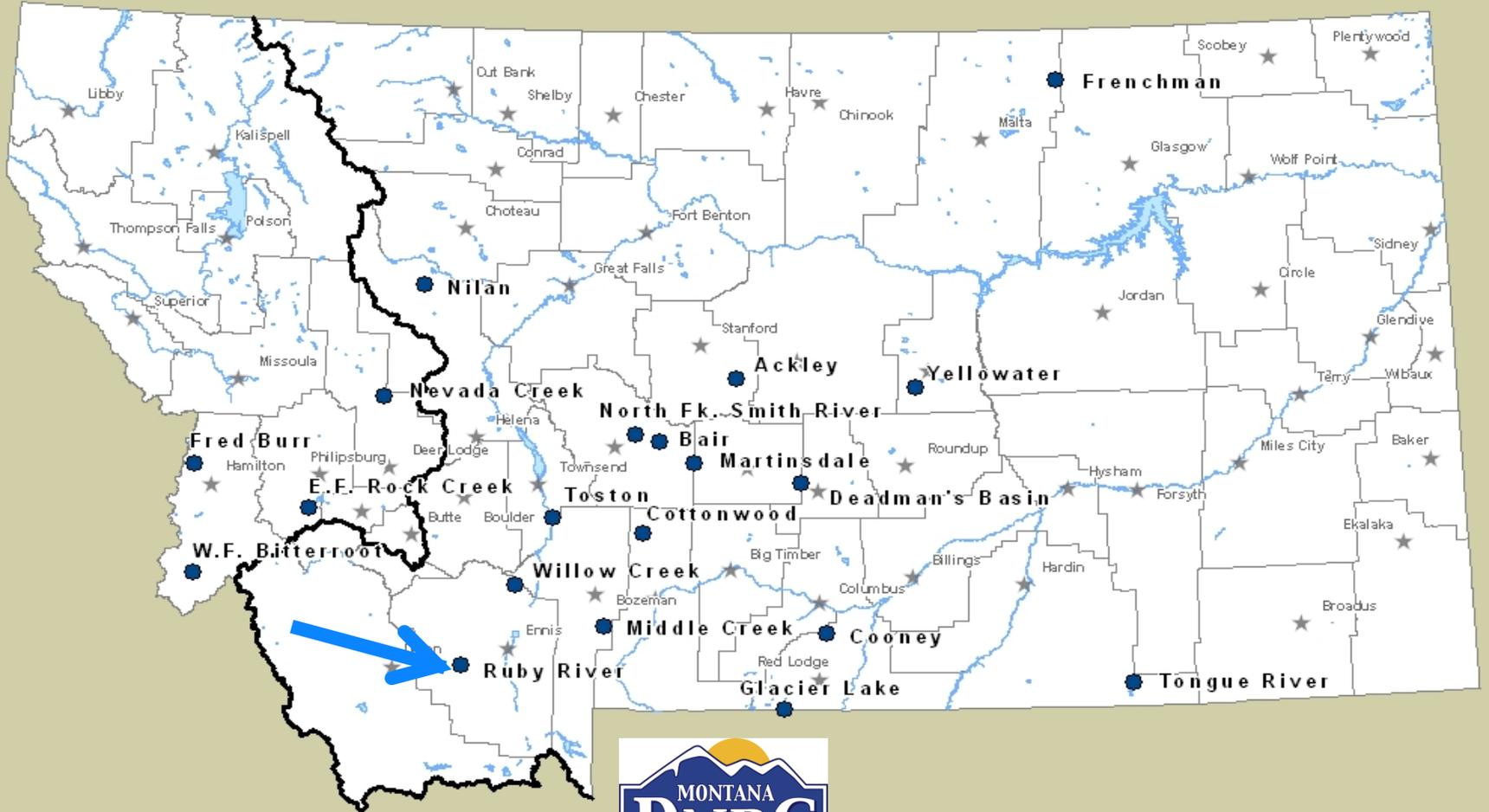


- 99% Capacity
- Outflows = 121 cfs
- 10,161 Acre-Feet
- Elev. = 6720.9
- Water Supply is favorable



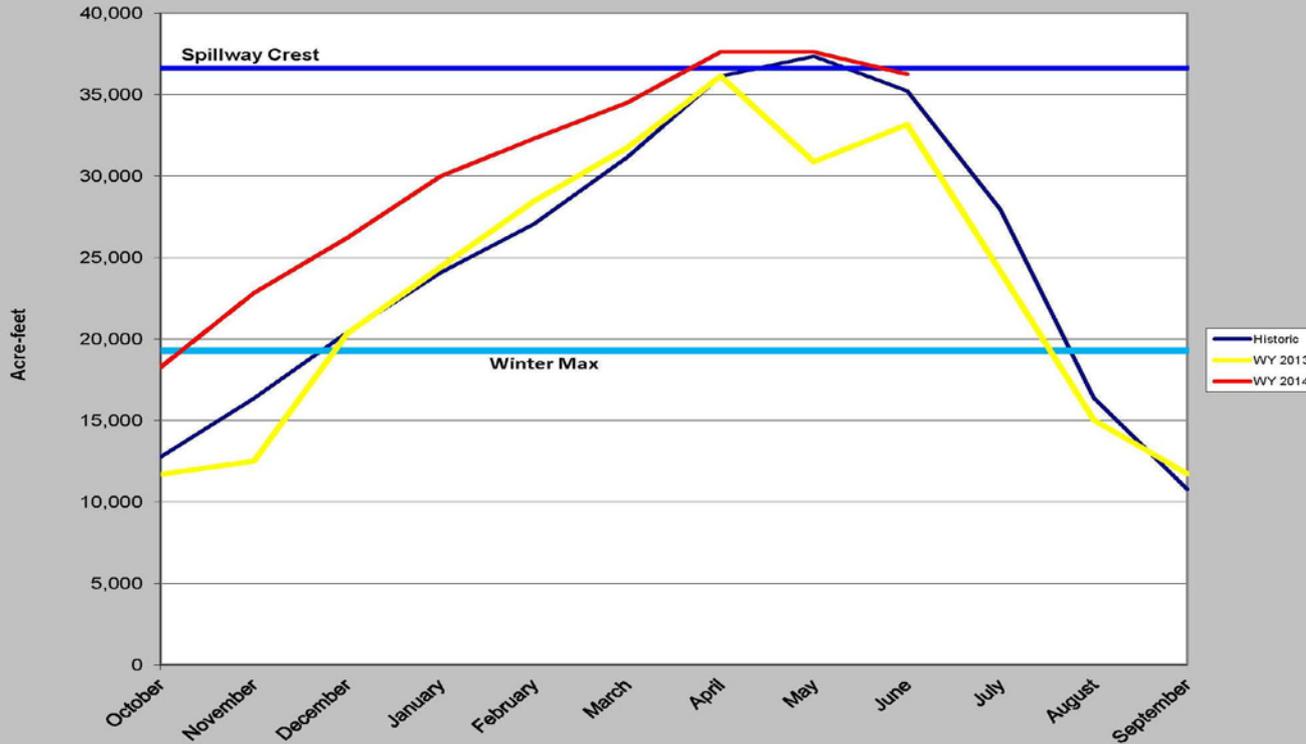
*** PROVISIONAL DATA SUBJECT TO REVISION ***

Montana DNRC State Water Projects Bureau Reservoirs



Ruby Reservoir

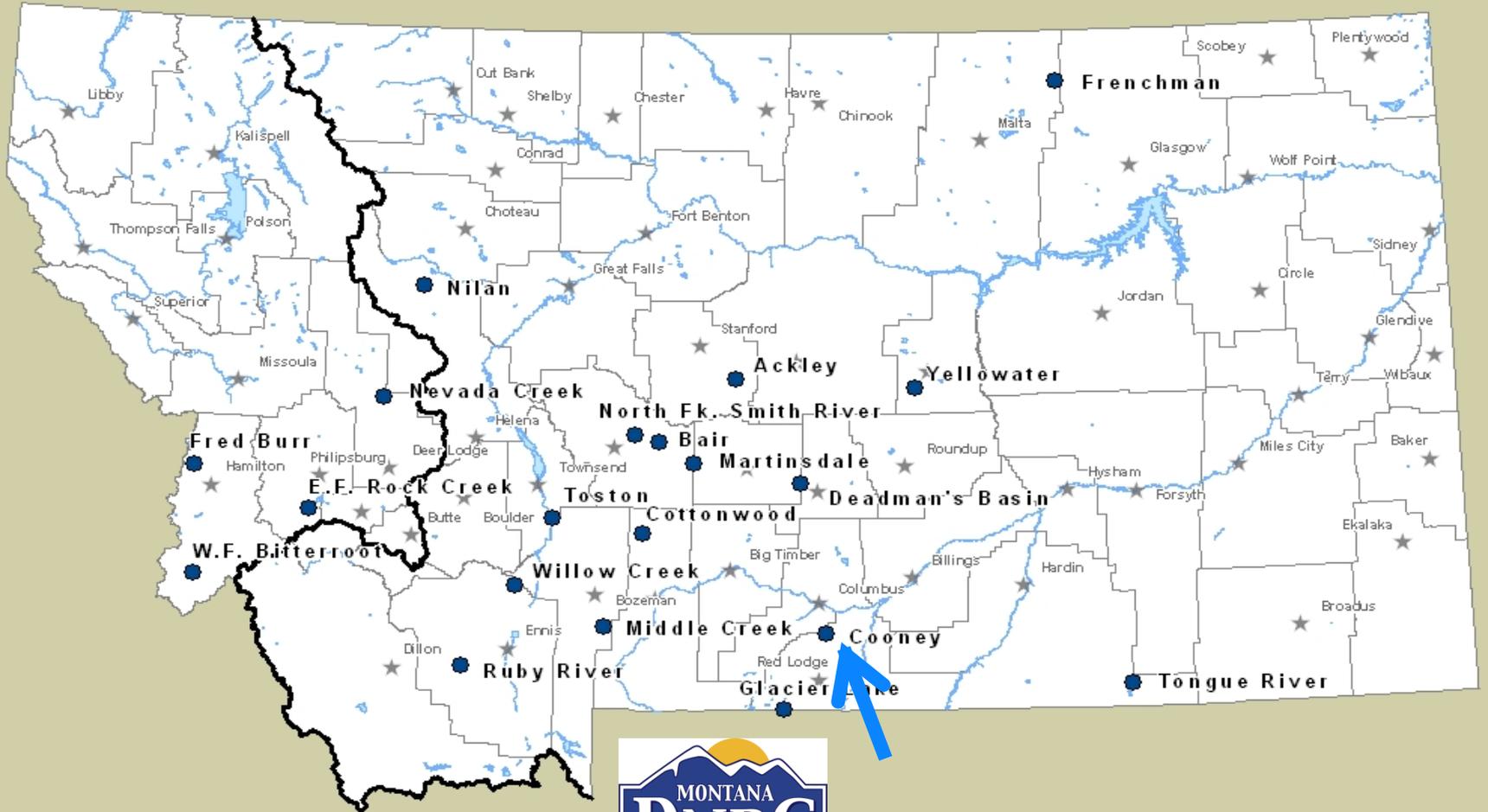
(Historic, WY 2013, and WY 2014)



- 100% Capacity
- 36,247 Acre-Feet
- Elev.=5391.60
- Inflows=315 cfs
- Outflows=166 cfs
- Water Supply is favorable

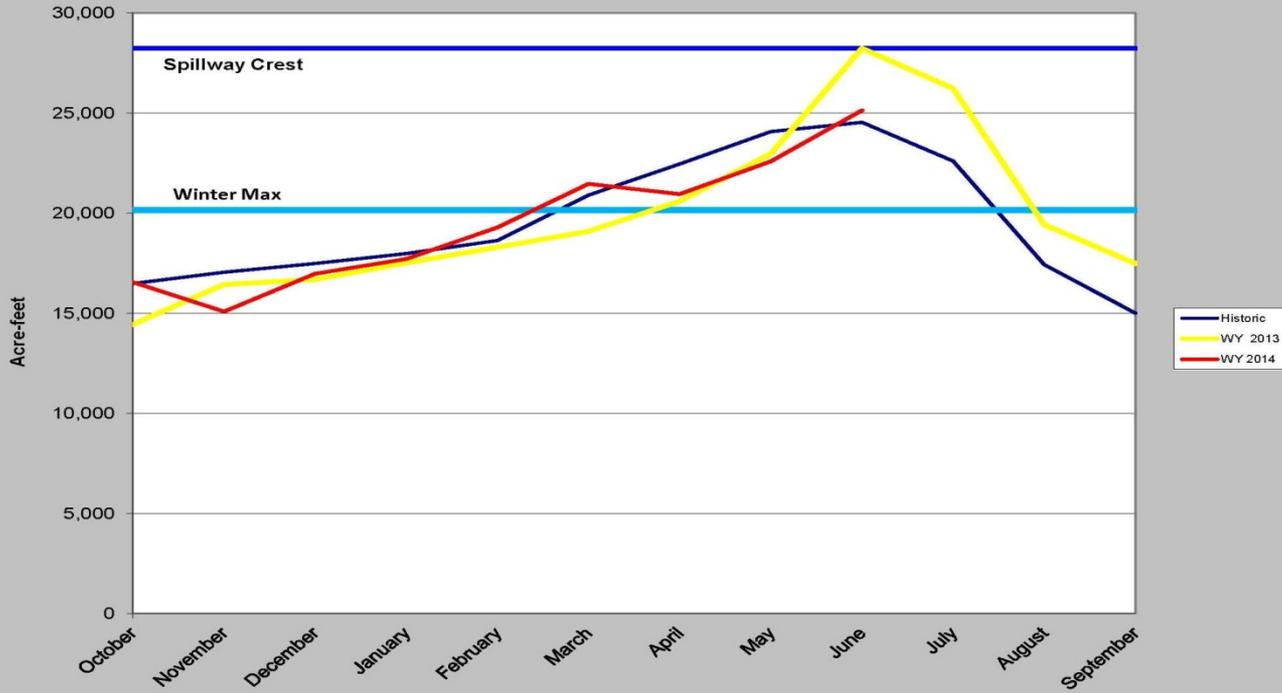


Montana DNRC State Water Projects Bureau Reservoirs



Cooney Reservoir

(Historic, WY 2013, and WY 2014)



- 89% Capacity
- 25,132 Acre-Feet
- Elev.=4247.39
- Inflows= 260 cfs
- Outflows= 180 cfs
- Water Supply is favorable



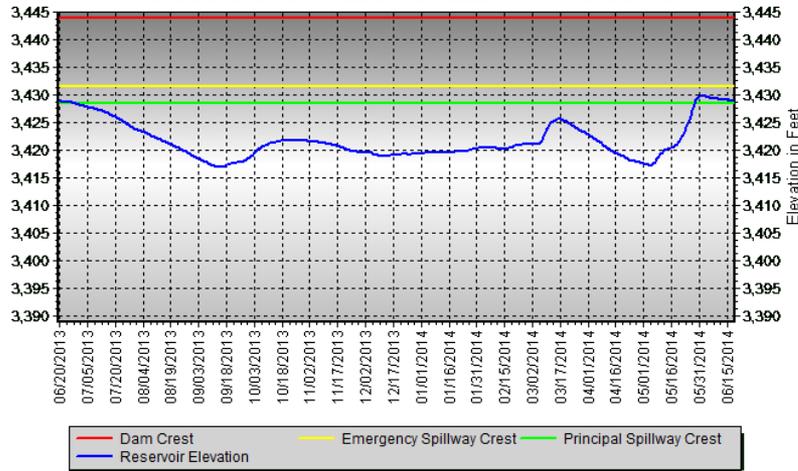
Montana DNRC State Water Projects Bureau Reservoirs



- 100% Capacity
- 81,563 Acre-Feet
- Elev. = 3429.0
- Inflows = 1,460 cfs
- Outflows = 1,560 cfs
- Water Supply is favorable



TONGUE RIVER DAM RESERVOIR ELEVATION — 365 DAYS

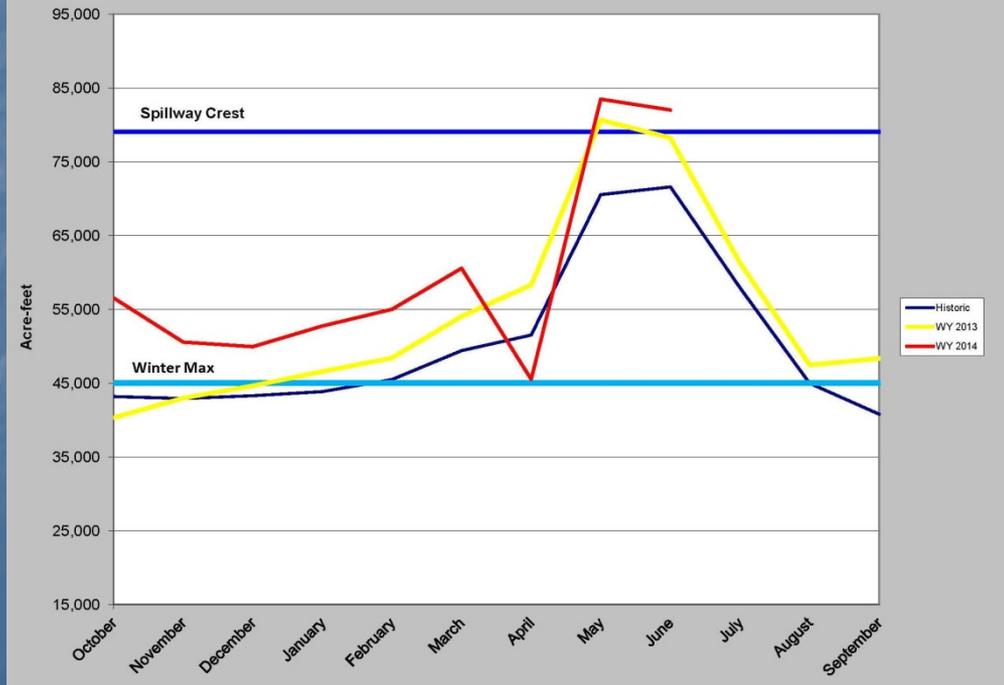


TIME OF LAST READING	6/19/2014 5:00:00 AM	REFERENCE INFORMATION	FT (MSL)	AC-FT
RESERVOIR ELEVATION	3,429.0 FT	DAM CREST	3444.0	150,000
RESERVOIR VOLUME	81,563 AF	EMERGENCY SPILLWAY CREST	3431.5	91,107
PRIMARY GATE	63.9%	PRINCIPAL SPILLWAY CREST	3428.4	79,071
SECONDARY GATE	1.0%	TOP OF LOW LEVEL INTAKE	3390.0	6,656

*** PROVISIONAL DATA SUBJECT TO REVISION ***

Tongue River

(Historic, WY 2013, and WY 2014)



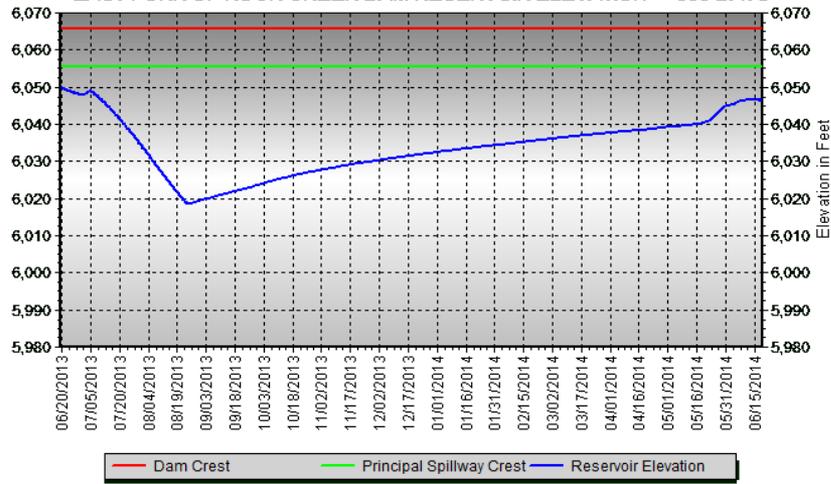
Montana DNRC State Water Projects Bureau Reservoirs





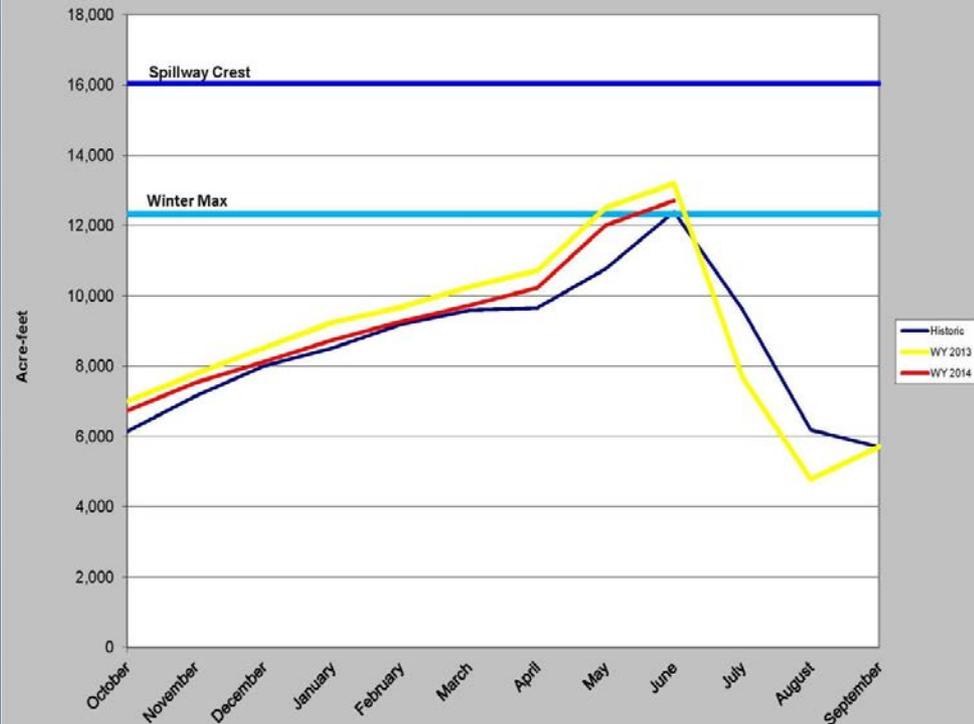
- 79% Capacity
- 12,593 Acre-Feet
- Elev. = 6046.3
- Water Supply is favorable

EAST FORK OF ROCK CREEK DAM RESERVOIR ELEVATION — 365 DAYS



East Fork Rock Creek Reservoir

(Historic, WY 2013, and WY 2014)



TIME OF LAST READING	6/19/2014 5:00:00 AM	REFERENCE INFORMATION	FT (MSL)	AC-FT
RESERVOIR ELEVATION	6,046.3 FT	DAM CREST	6065.6	19,850
RESERVOIR VOLUME	12,593 AF	PRINCIPAL SPILLWAY CREST	6055.5	16,040
		LOWEST USABLE ELEVATION	5989.7	0

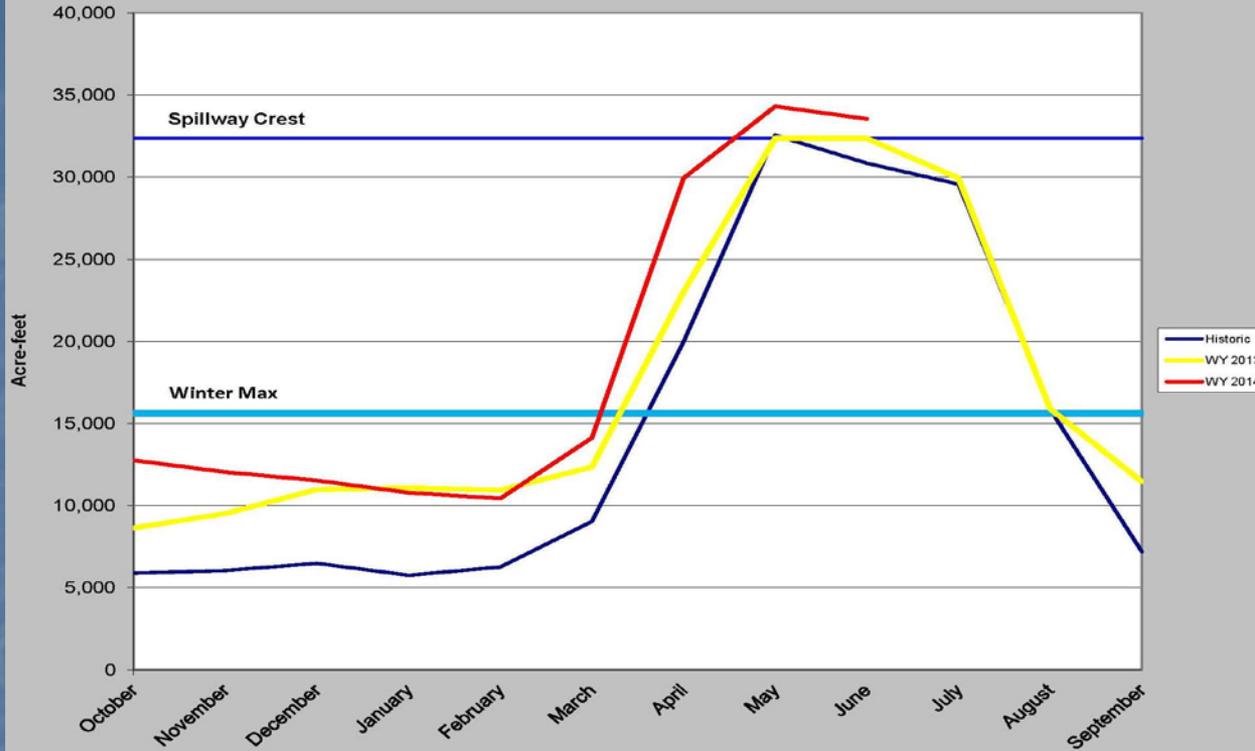
*** PROVISIONAL DATA SUBJECT TO REVISION ***

Montana DNRC State Water Projects Bureau Reservoirs



Painted Rocks Reservoir

(Historic, WY 2013, and WY 2014)



- 100% Capacity
- 33,542 Acre-Feet
- Elev. = 4727.2
- Reservoir is spilling
- Inflows/Outflows = 776 cfs
- Water Supply is favorable



Summary

- Snowpack for SWP reservoirs above average to well above average
- Majority of DNRC SWP Reservoirs filled to capacity. The remaining reservoirs are filling or are near capacity.
- Runoff conditions were ideal for reservoir storage.
- Rehab projects (Ruby and Broadwater) are wrapping up. EF Rock Creek Fish Screen is completed and irrigation water is currently being delivered.
- Water Supply is favorable for DNRC SWP reservoirs and water users should expect full contracted deliveries through WY 2014



**Governor's Drought & Water Supply Advisory
Committee
May NRCC Update**

**Harold Gemmell, Direct Fire Protection Coordinator
DNRC**

hgemmell@mt.gov 406 329-4996



Wednesday, May 22, 2013

INCIDENT INFORMATION

PREDICTIVE SERVICES

- Intelligence
- Weather
- Fuels/Fire Danger
- Outlooks

LOGISTICS / DISPATCH

- Dispatch Operations
- Aviation
- Crews
- Equipment/Supplies
- Overhead

ADMINISTRATIVE

- Northern Rockies Coordinating Group
- Policy and Reports
- Incident Business Management
- Safety Management
- Software Applications
- Training

RELATED LINKS

- National
- Area

Welcome to the NORTHERN ROCKIES COORDINATION CENTER

The Northern Rockies Coordination Center (NRCC) is the interagency focal point for coordinating the mobilization of resources for wildland fire and other all-hazard incidents throughout the Northern Rockies Area and, when necessary, for assignment throughout the United States. Located in Missoula, Montana, the Center also provides Intelligence and Predictive Services related products for use by the wildland fire community for purposes of wildland fire and incident management decision-making.

There are five primary components to the NRCC website.

- [Incident Information](#) provides general information on large wildland fires, fire restrictions and closures, and other relevant activity throughout the Geographic Area.
- [Predictive Services](#) provides operational products and links to incident situation information, maps, resources, current fire weather conditions, forecasts, fuels, fire behavior as well as daily, weekly and monthly fire weather/fire danger outlooks.
- [Logistics/Dispatch](#) provides detailed operation and information links for aviation, crews, equipment and overhead, including Incident Management Teams.
- [Administrative](#) provides fire and incident management tools and links including policies and reports, business management, safety, software applications, and training.
- [Related Links](#) component provides links to related Internet websites within the Northern Rockies Area and nationally.



BULLETIN BOARD

SITUATION

PREPAREDNESS LEVELS

Northern Rockies PL: **1**
National PL: **1**

Situation Reports

Year-to-Date & Historical Wildfire Data

••• **Restrictions & Closures** •••

SAFETY ALERTS

NRGA Landscape Mortality Safety Alert
NRGA Landscape Mortality Pocket Card

Coal Seam Fires Safety

COOPERATING FEDERAL, STATE AND OTHER AGENCIES IN THE NORTHERN ROCKIES AREA





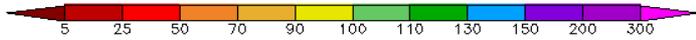
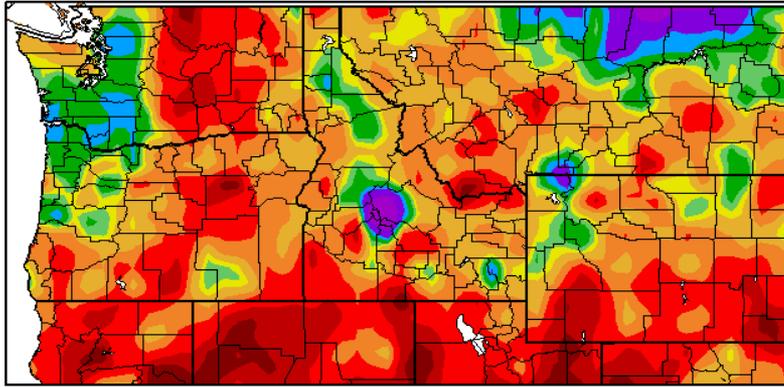








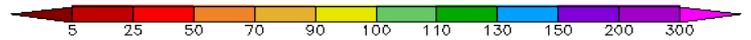
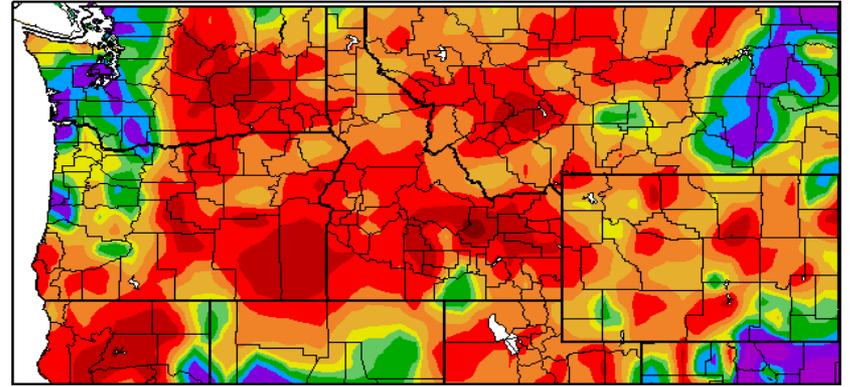
Percent of Normal Precipitation (%)
5/1/2012 - 5/31/2012



Generated 6/11/2012 at HPRCC using provisional data.

Regional Climate Centers

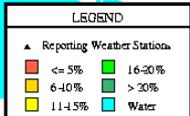
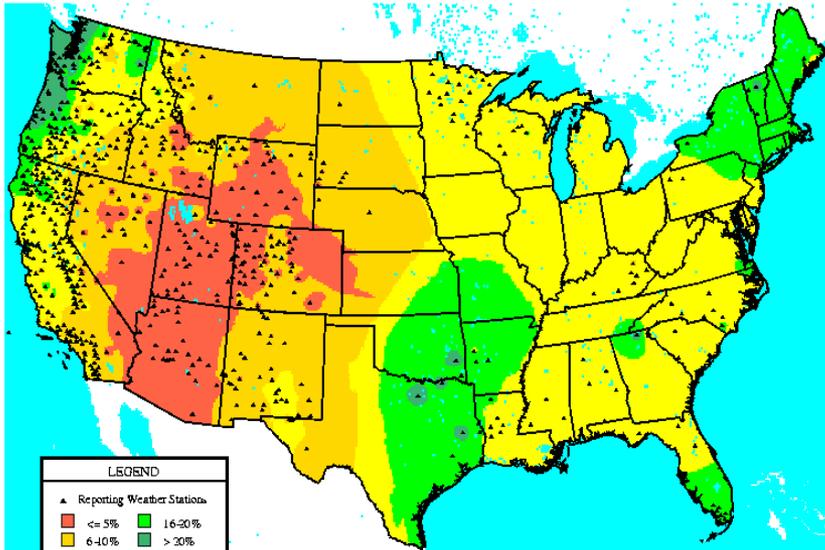
Percent of Normal Precipitation (%)
5/1/2014 - 5/31/2014



Generated 6/5/2014 at HPRCC using provisional data.

Regional Climate Centers

Obs. 100-Hour FM: 09-JUN-00

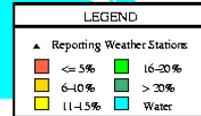
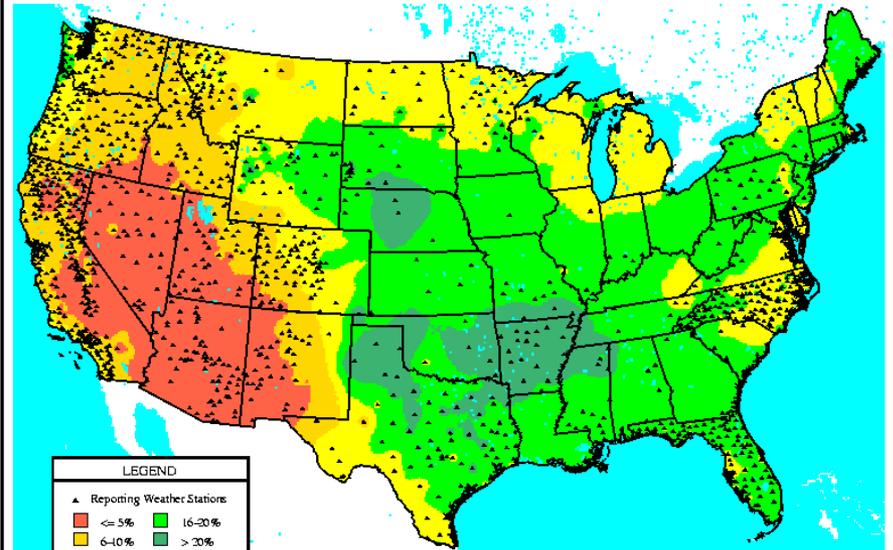


(Inv. Dist. Interp.)

WFAS-MAPS Graphics NIFC Boise, ID



Obs. 100-Hour FM: 09-JUN-14

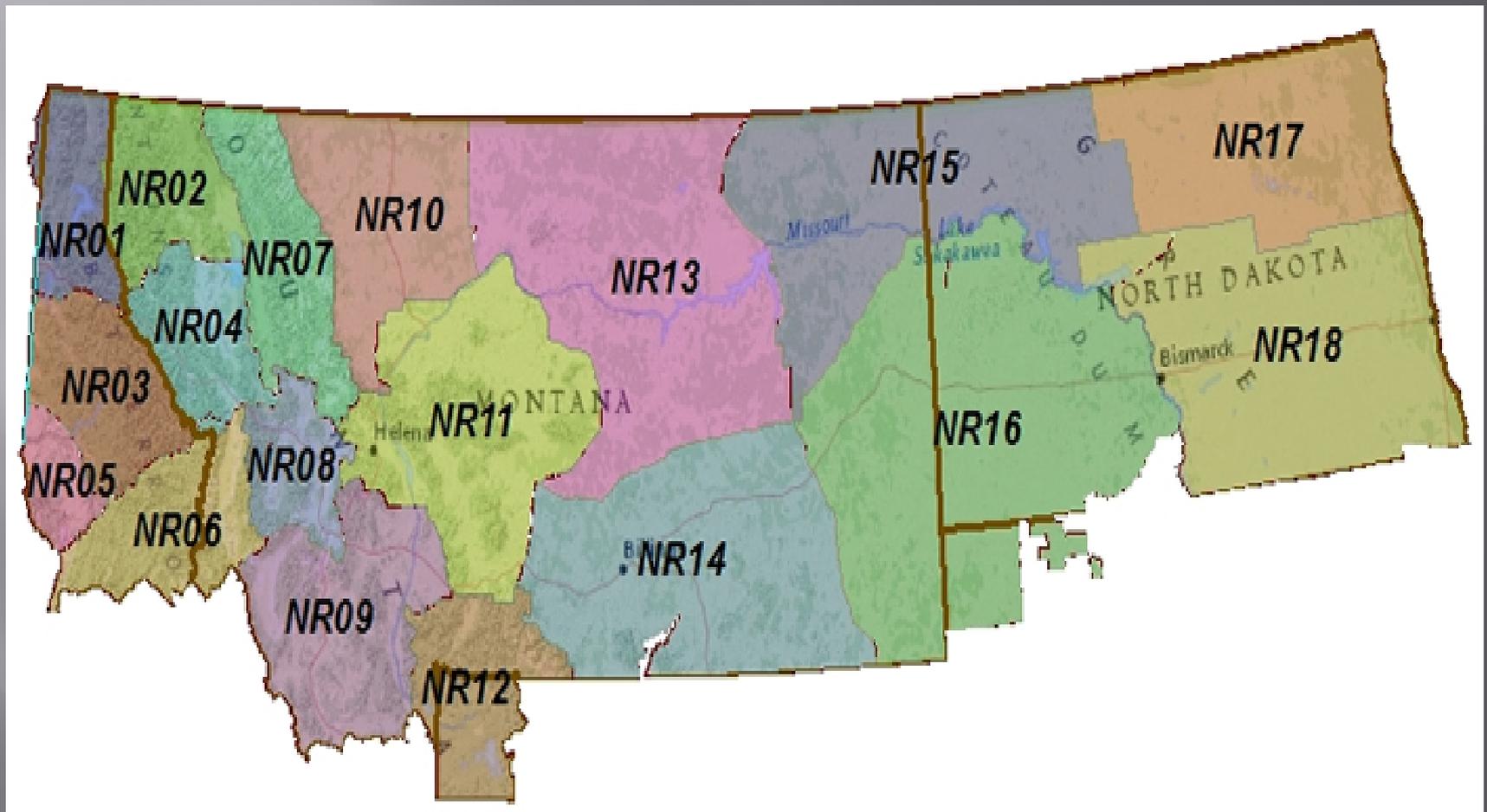


(Inv. Dist. Interp.)

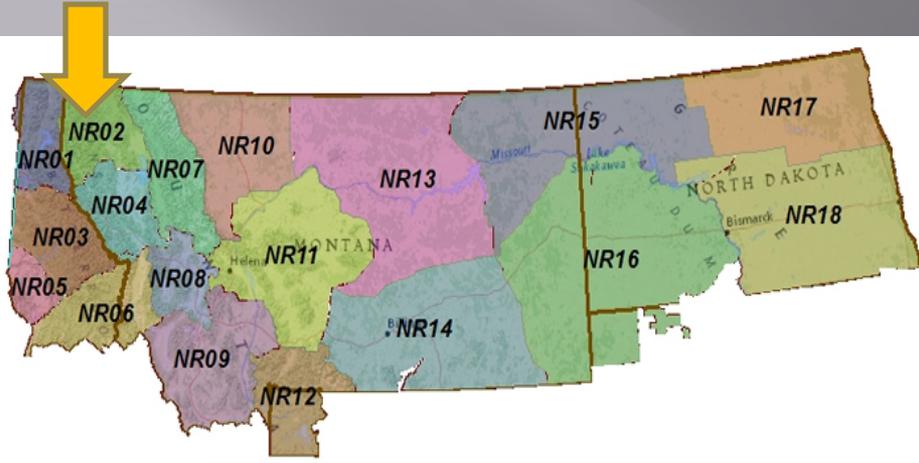
WFAS-MAPS Graphics FIRE BEHAVIOR RESEARCH MISSOULA, MT



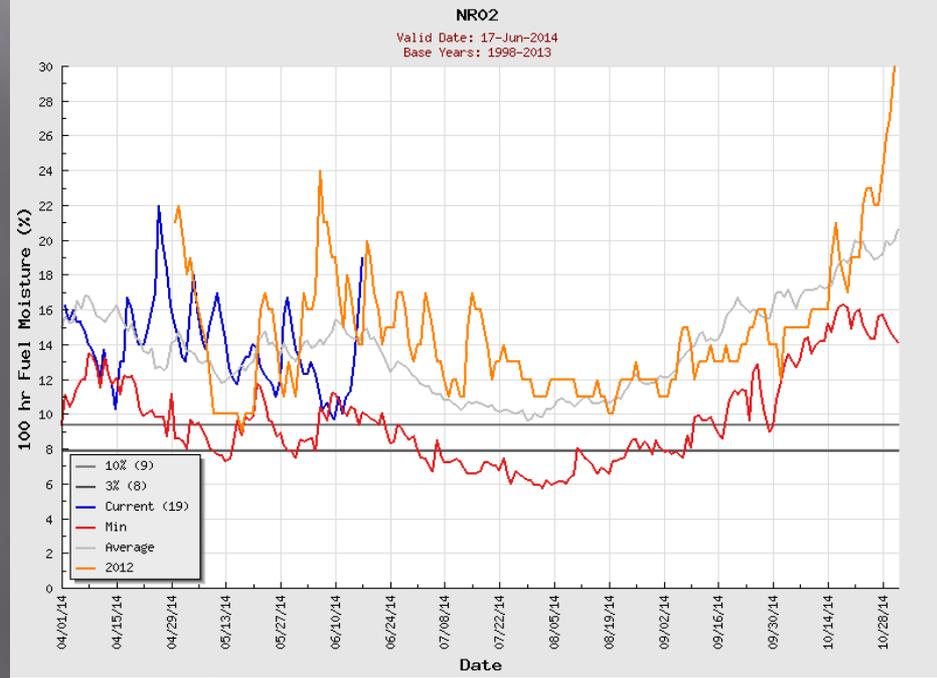
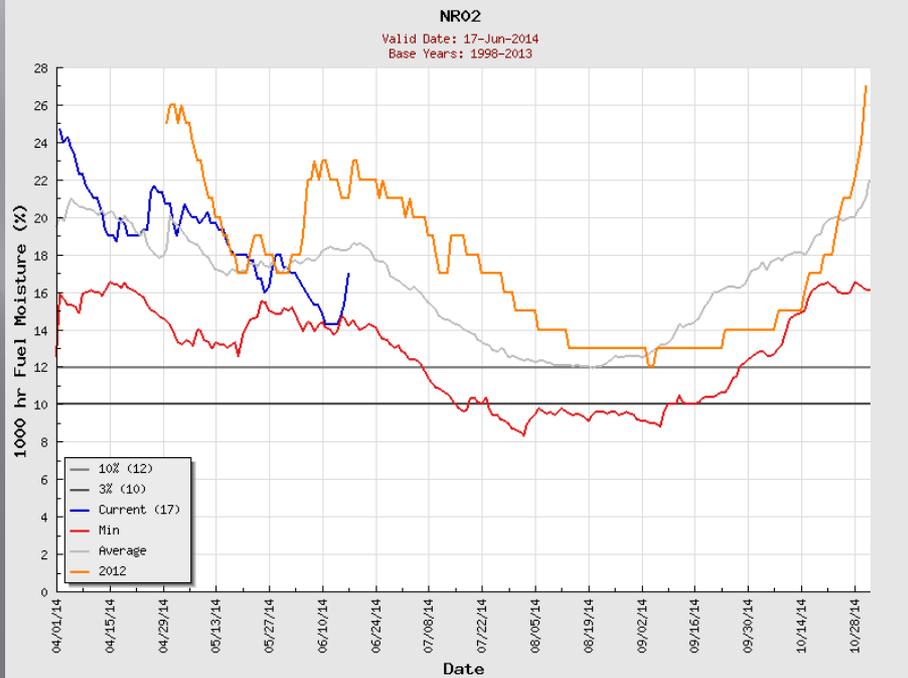
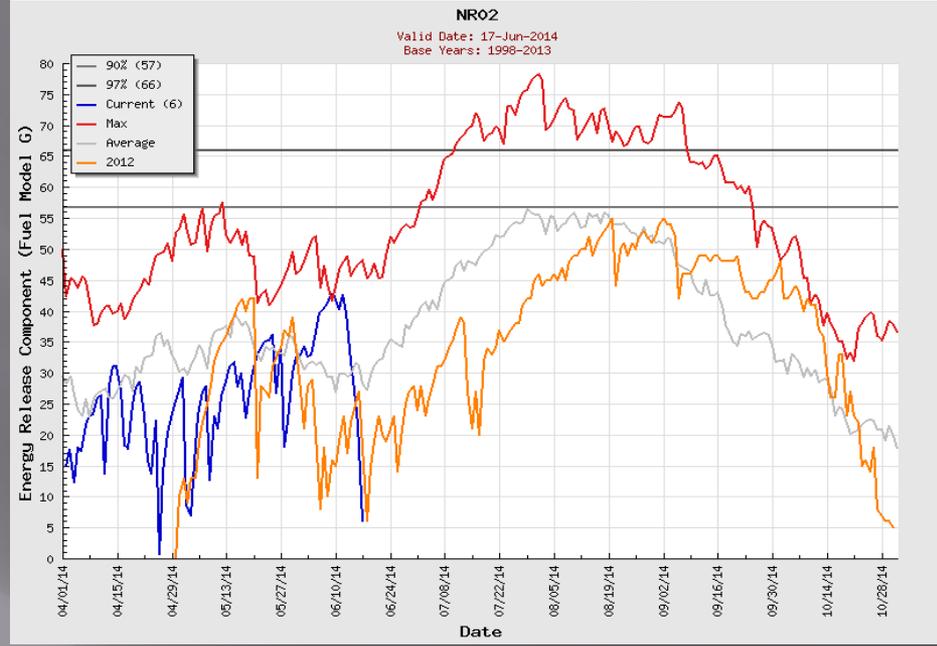
NRCC PREDICTIVE SERVICE AREAS (PSA'S)



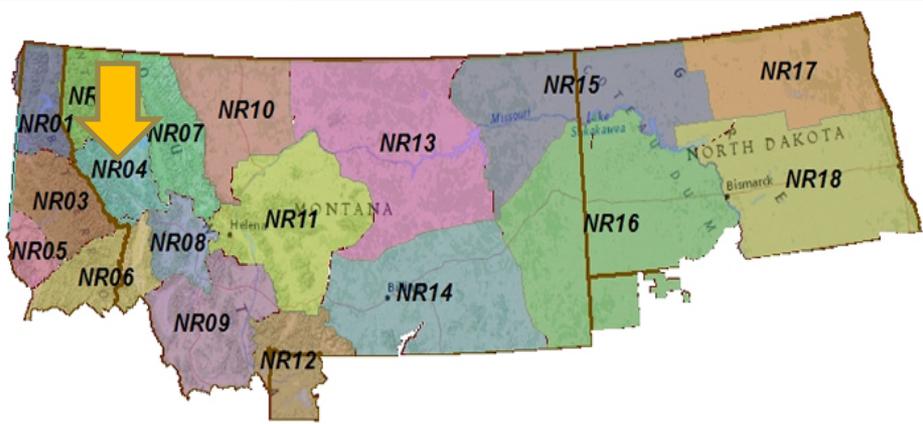
NR02 - Northwestern Montana



Libby Ranger Station
Troy Ranger Station
Eureka Ranger Station

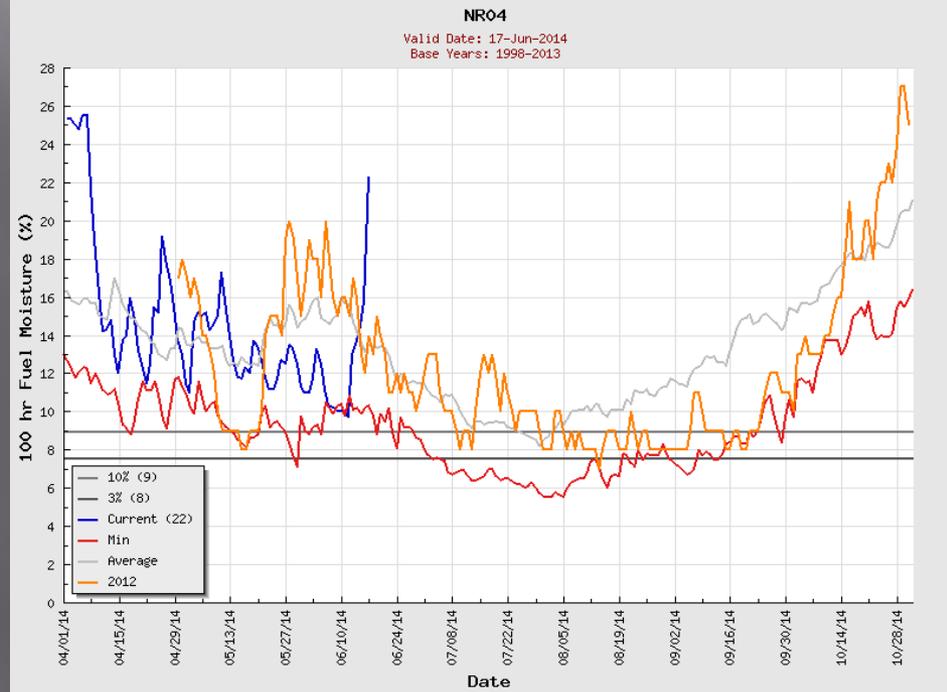
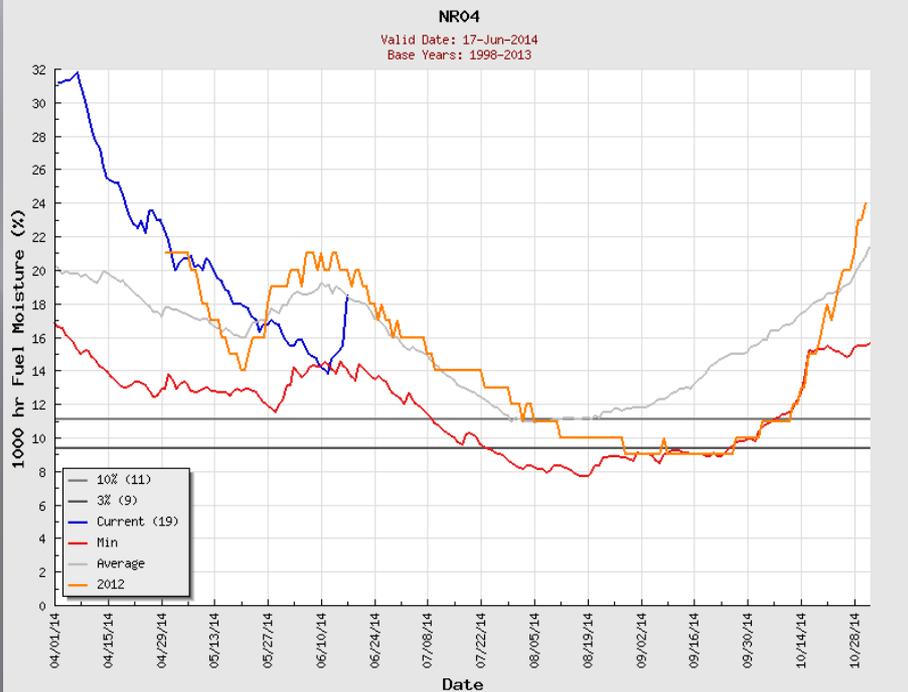
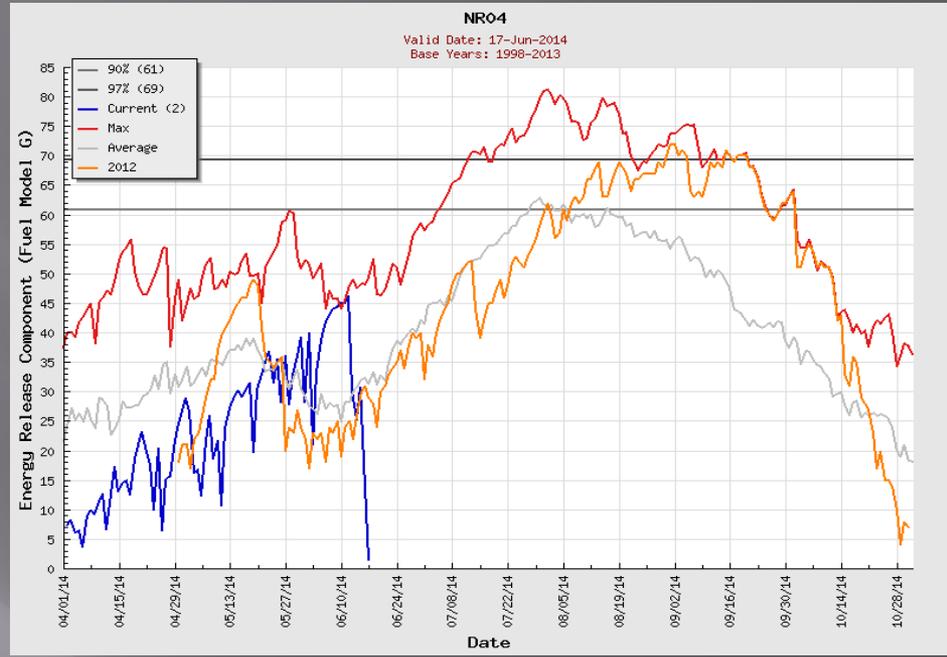


NR04 – Western Montana

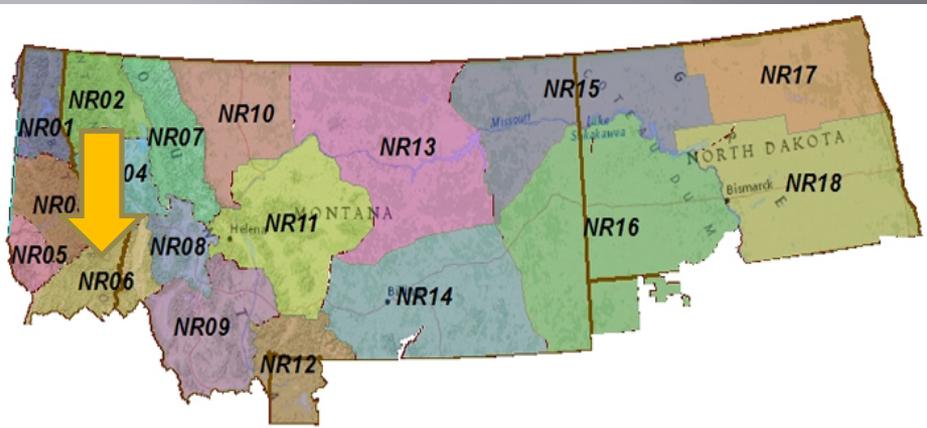


Plains
Missoula
St. Regis

Hot Springs
Nine Mile

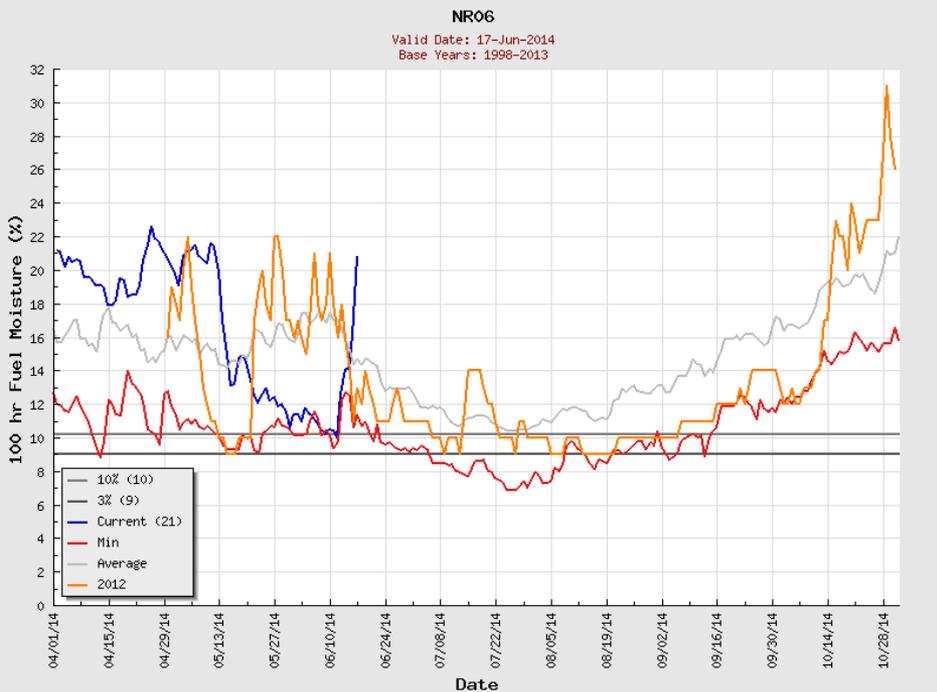
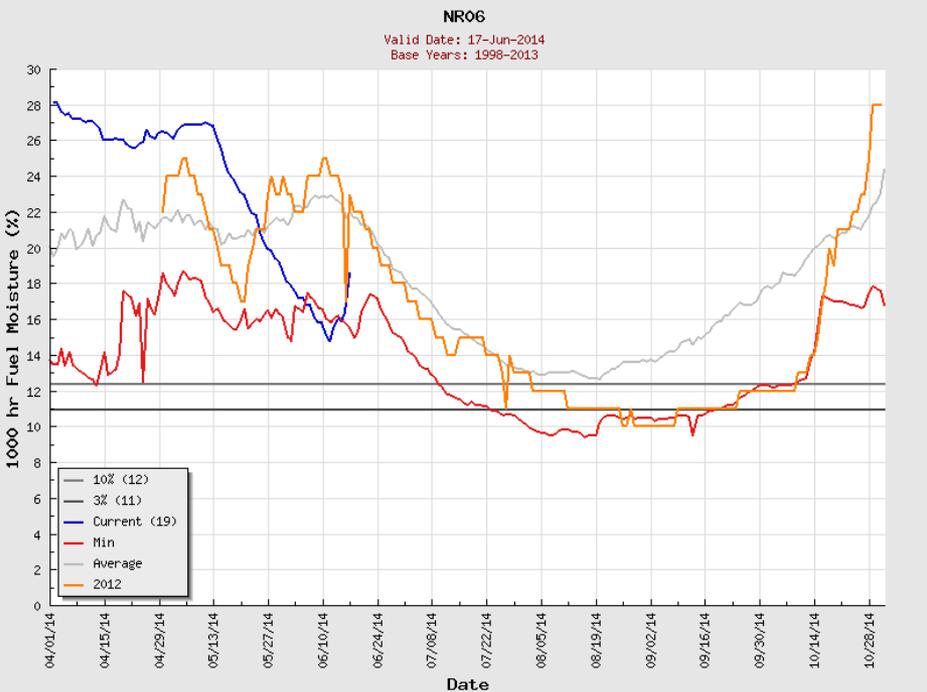
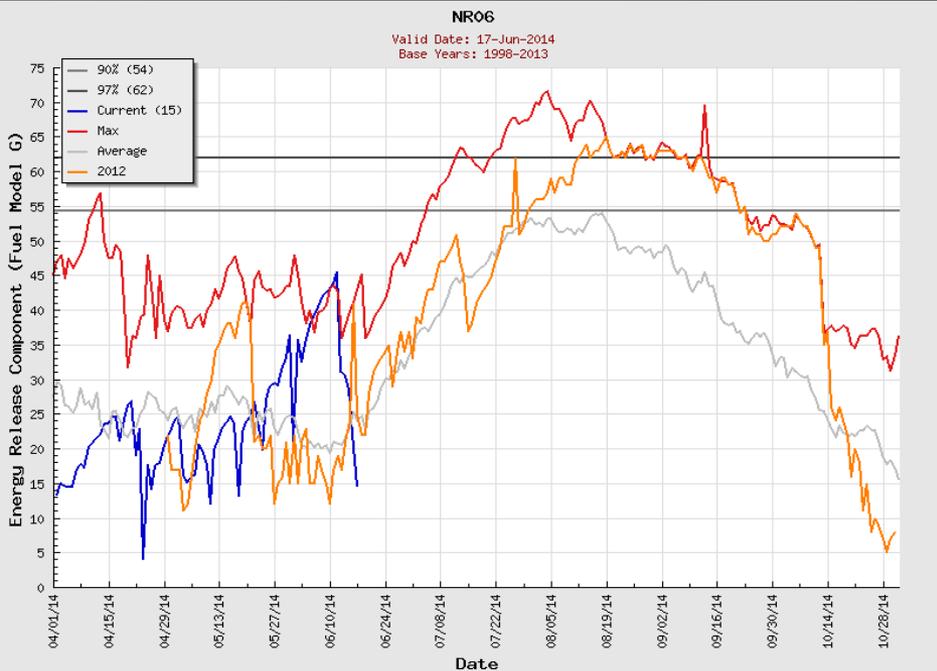


NR06 – North Central Idaho and Bitterroot/Sapphire Mtns

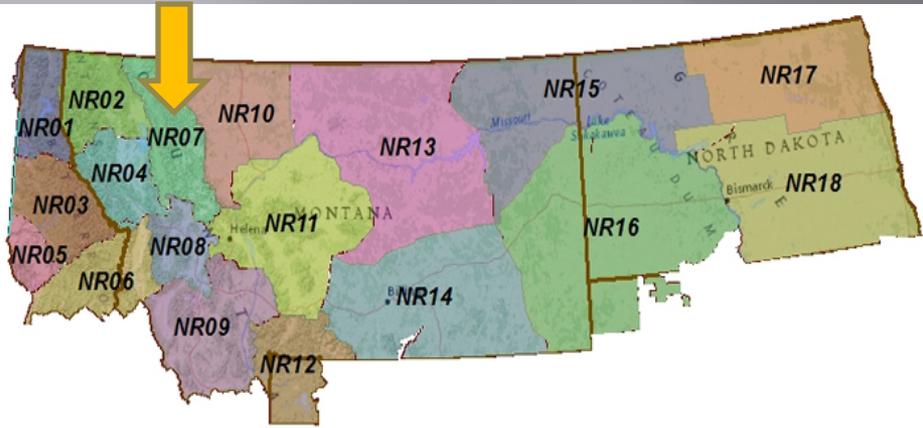


Fenn
Powell
Stevi

Moose Creek
Red River
West Fork



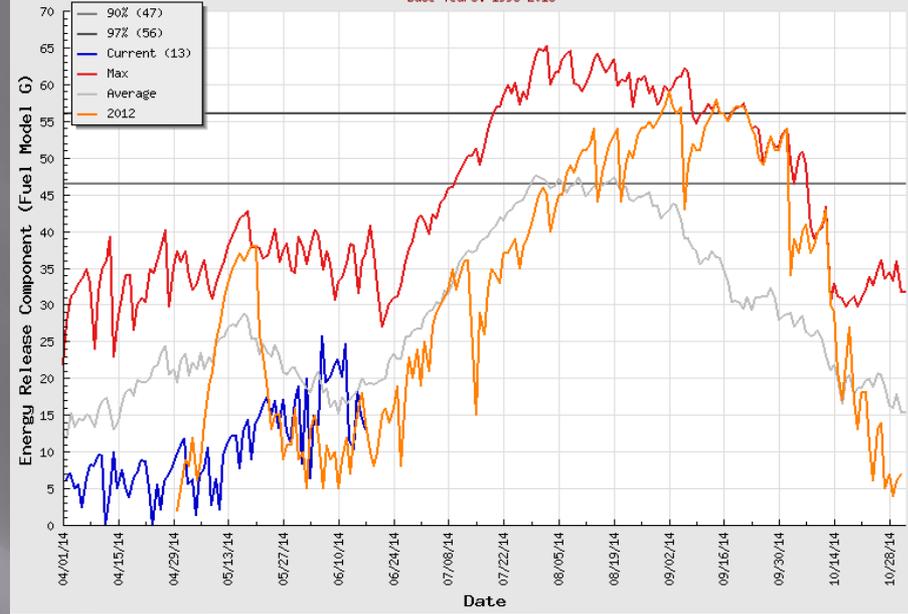
NR07 - Glacier National Park and Wilderness Areas



West Glacier
Cyclone
Condon Work Center

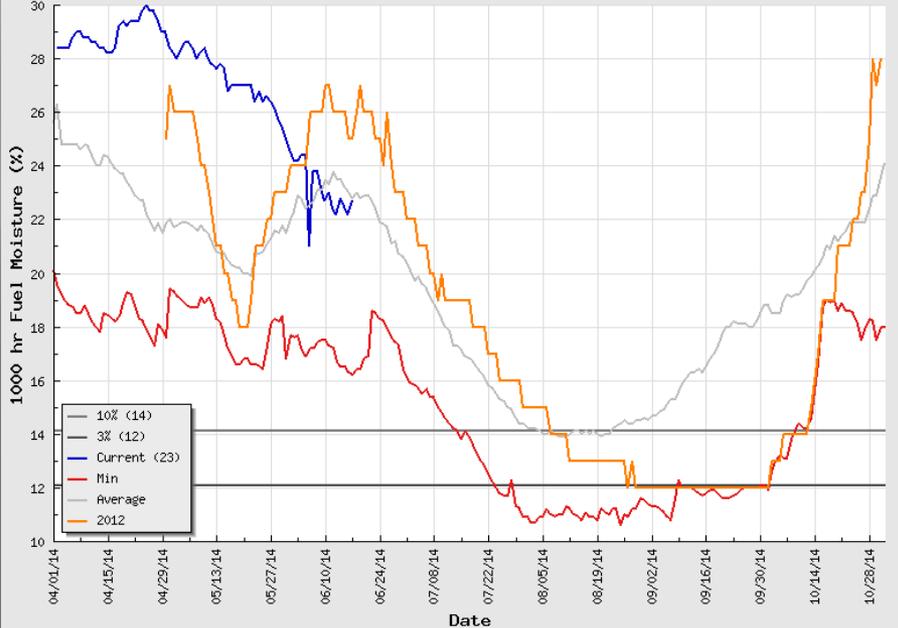
Hungry Horse
Benchmark

NR07
Valid Date: 17-Jun-2014
Base Years: 1998-2013



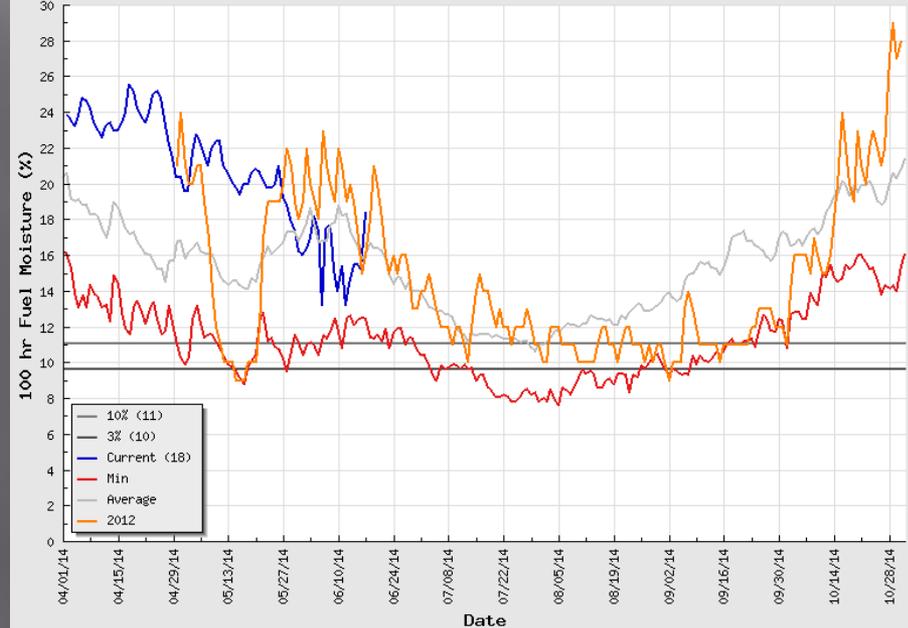
NR07

Valid Date: 17-Jun-2014
Base Years: 1998-2013

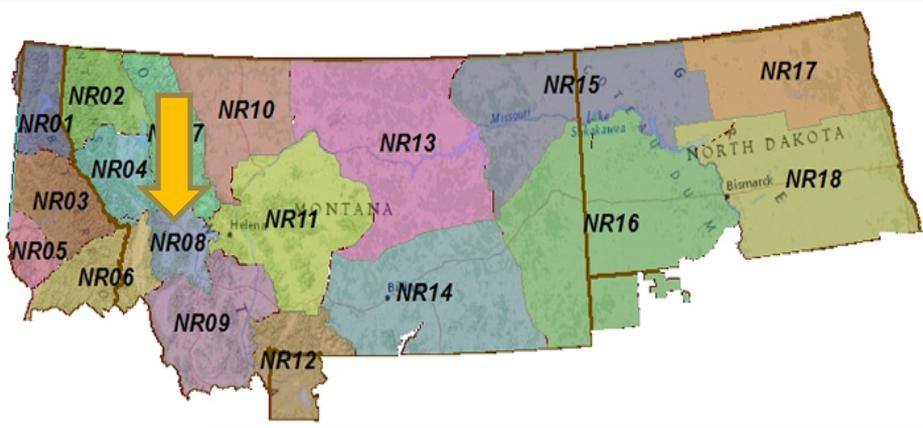


NR07

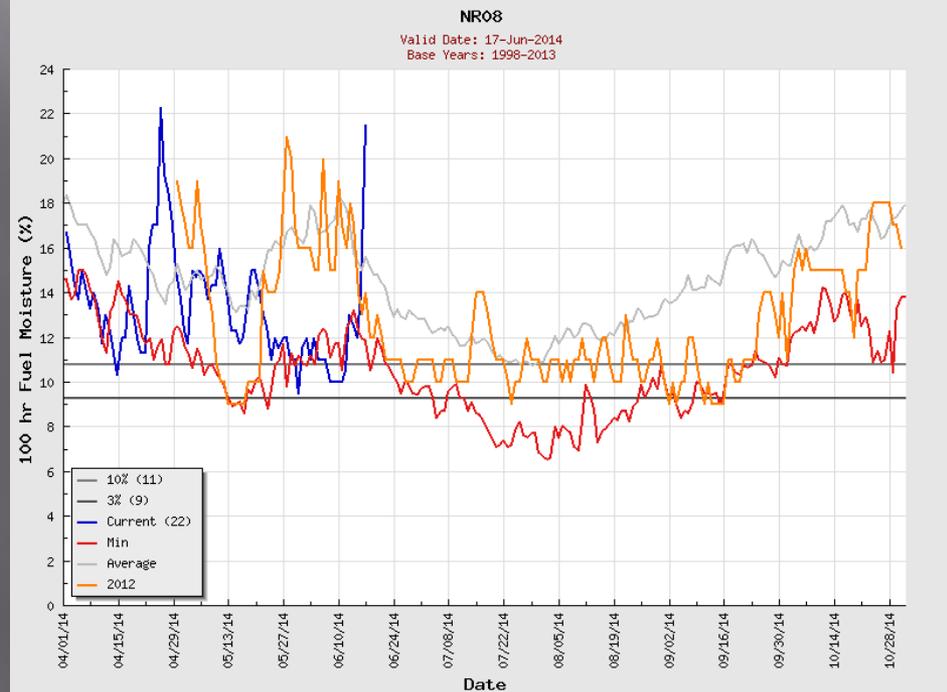
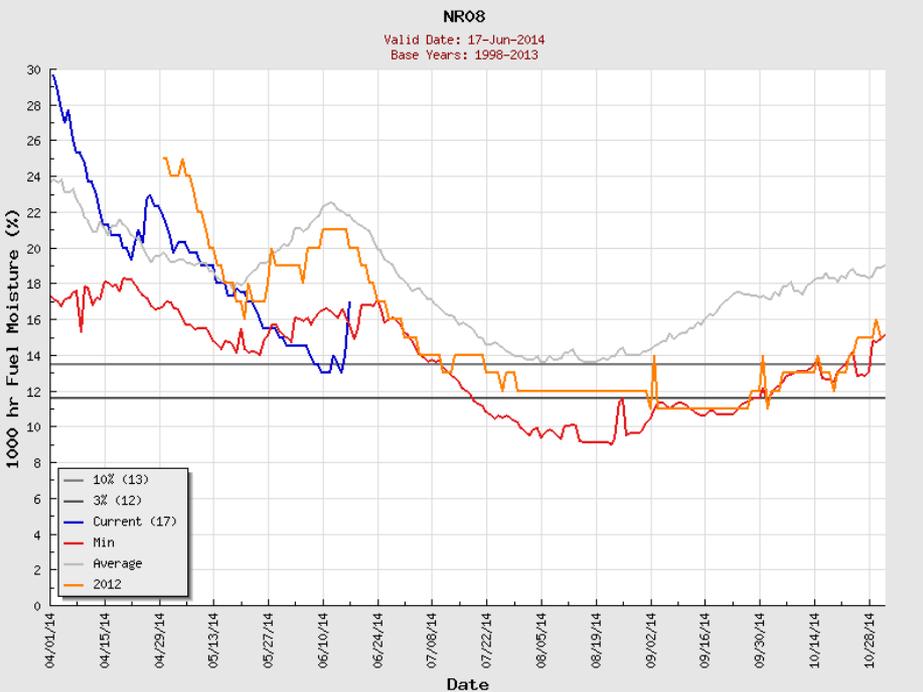
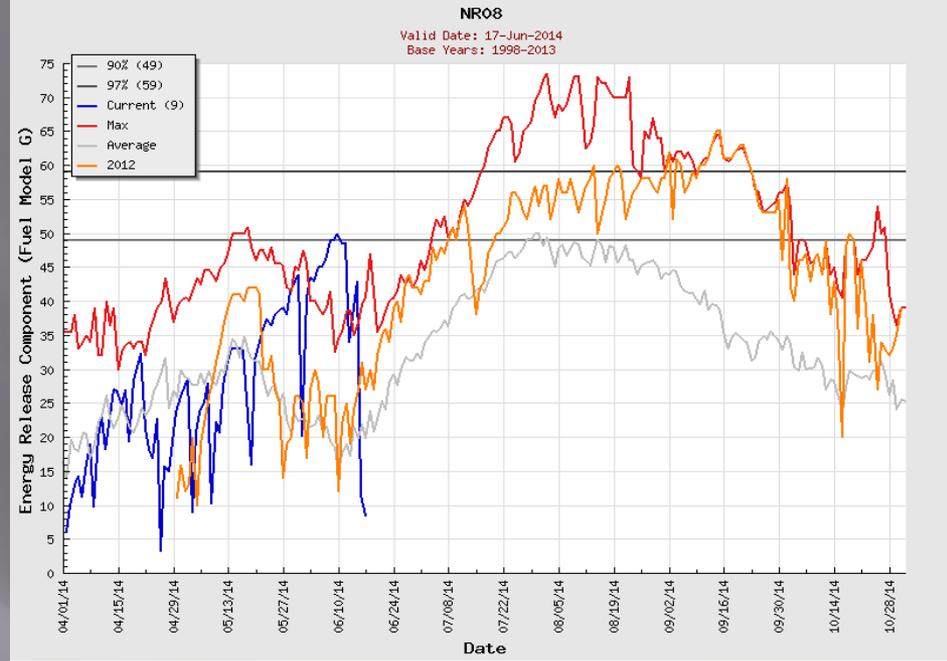
Valid Date: 17-Jun-2014
Base Years: 1998-2013



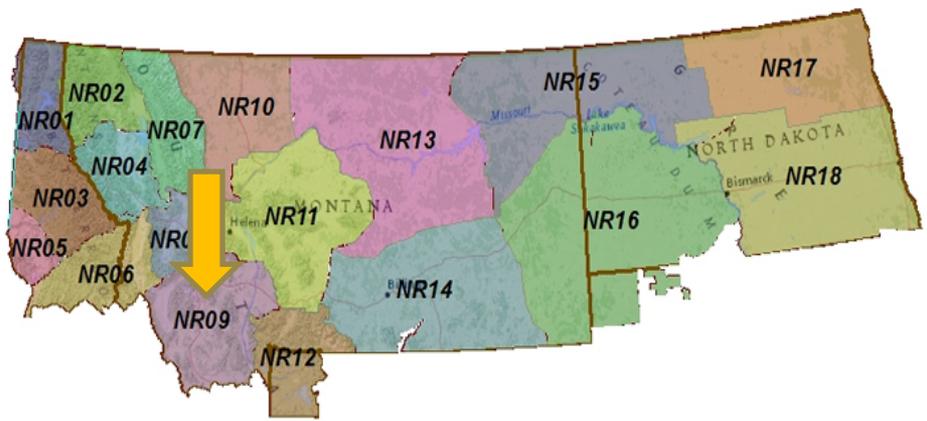
NR08 – Southwest Montana, West of Continental Divide



Lincoln
Phillipsburg

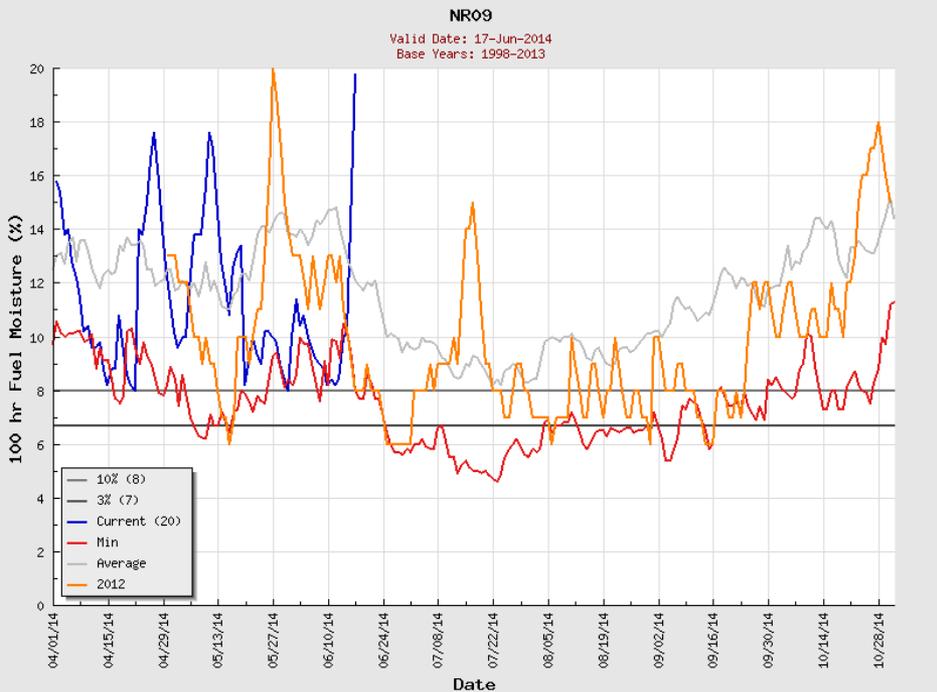
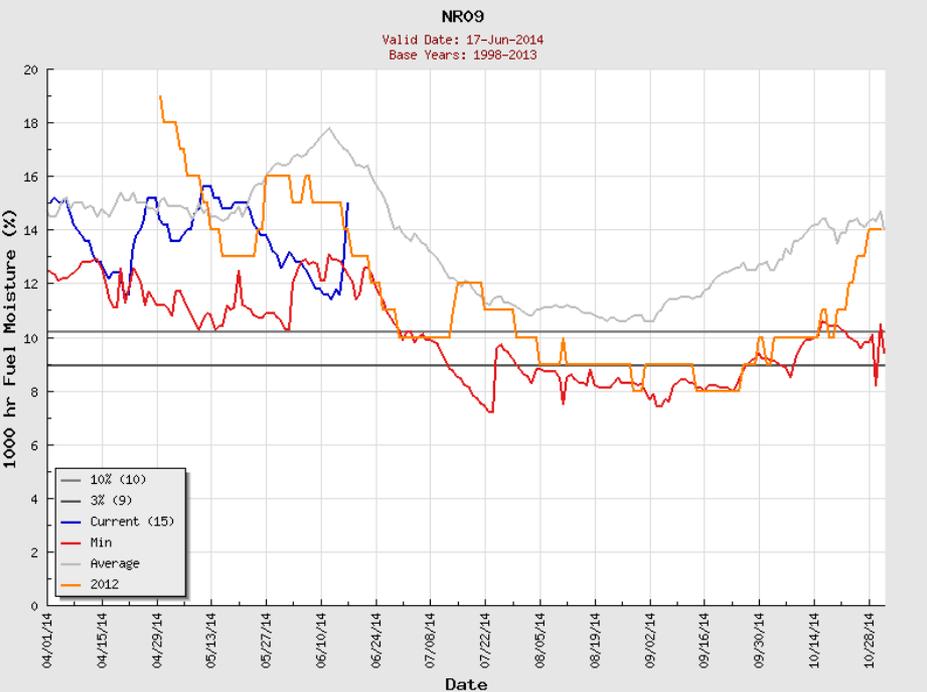
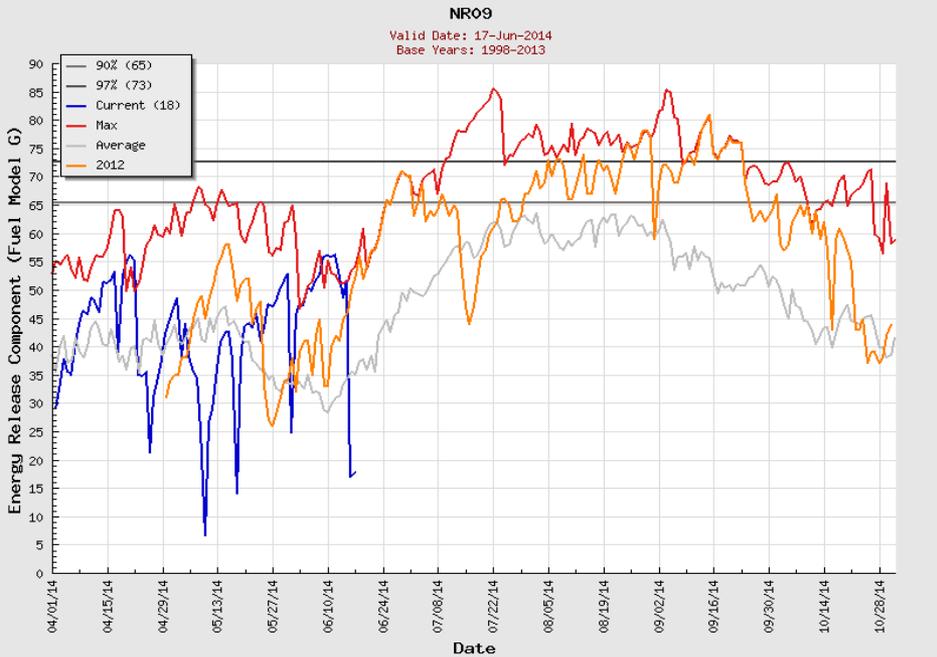


NR09 – Big Hole, Southwest Montana East of Continental Divide

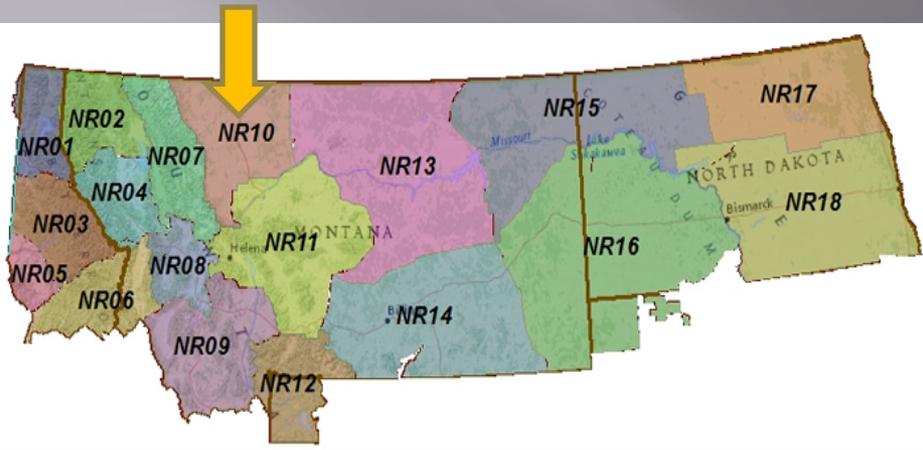


Jefferson
Brenner

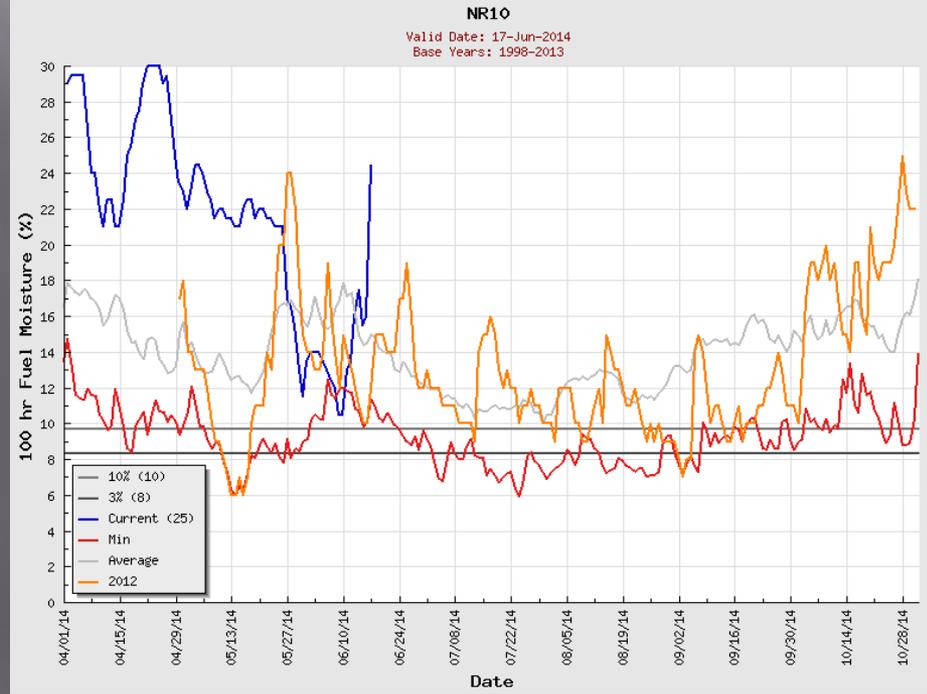
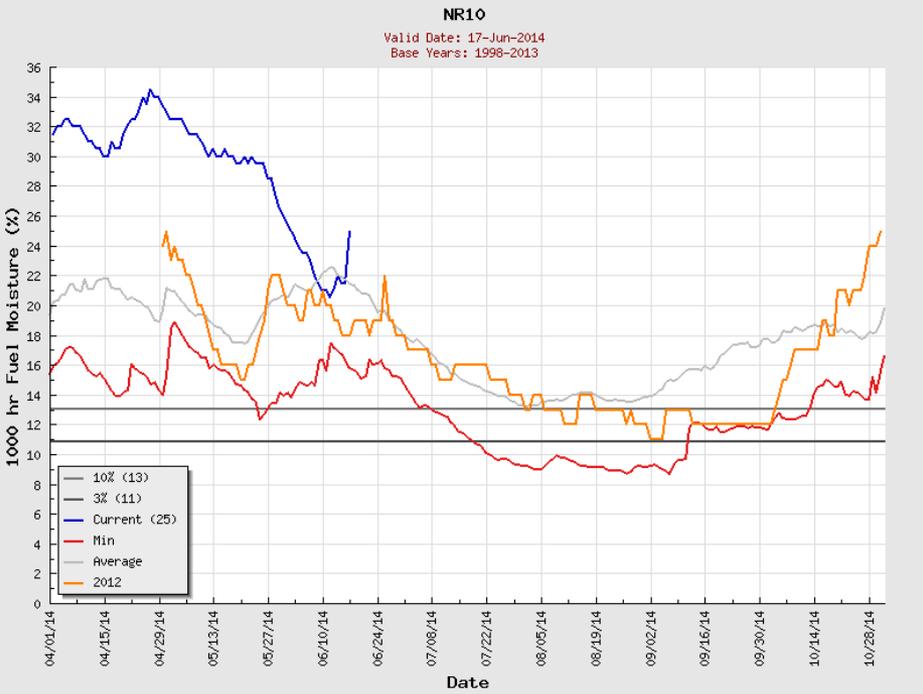
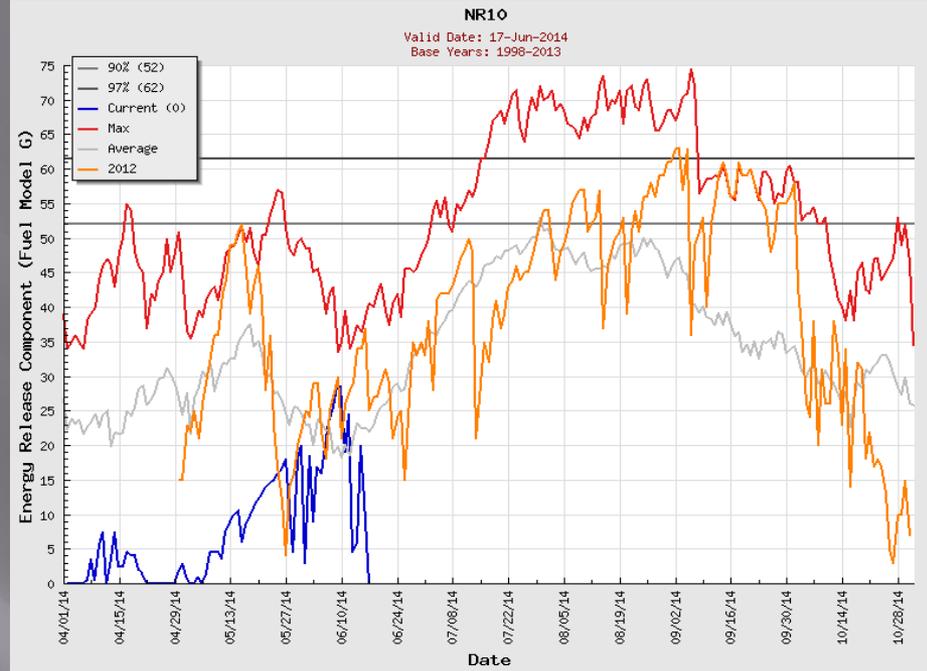
Ennis
Wise River



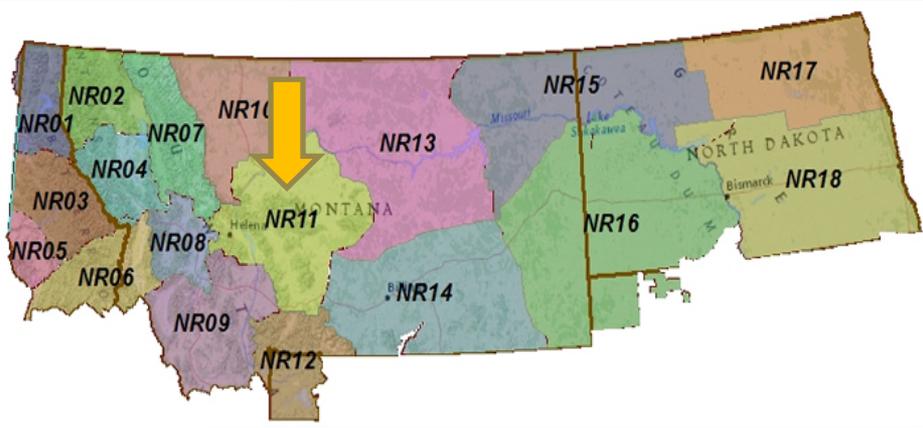
NR10 – Northern Front Range



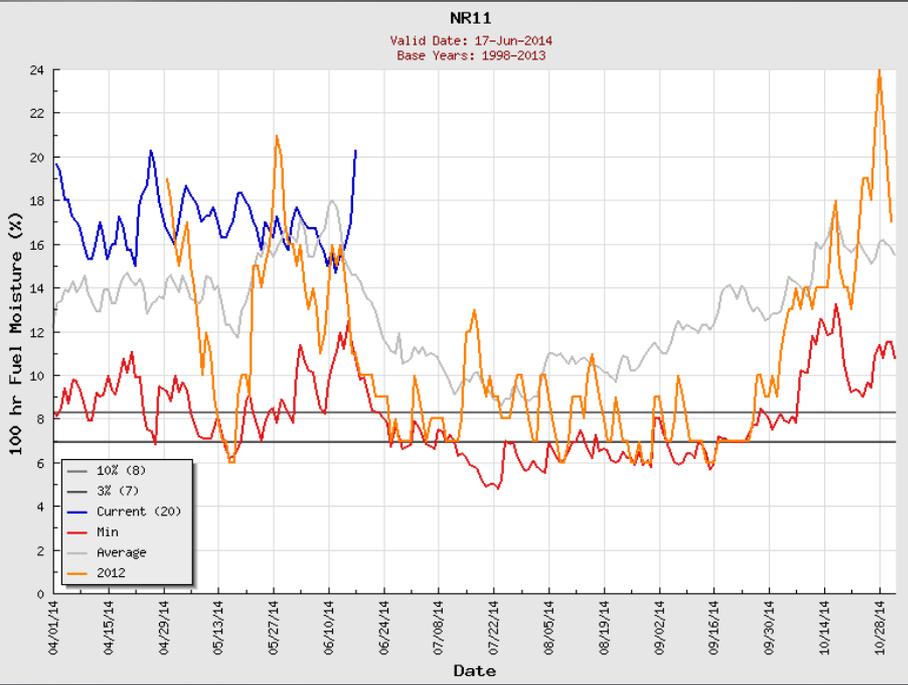
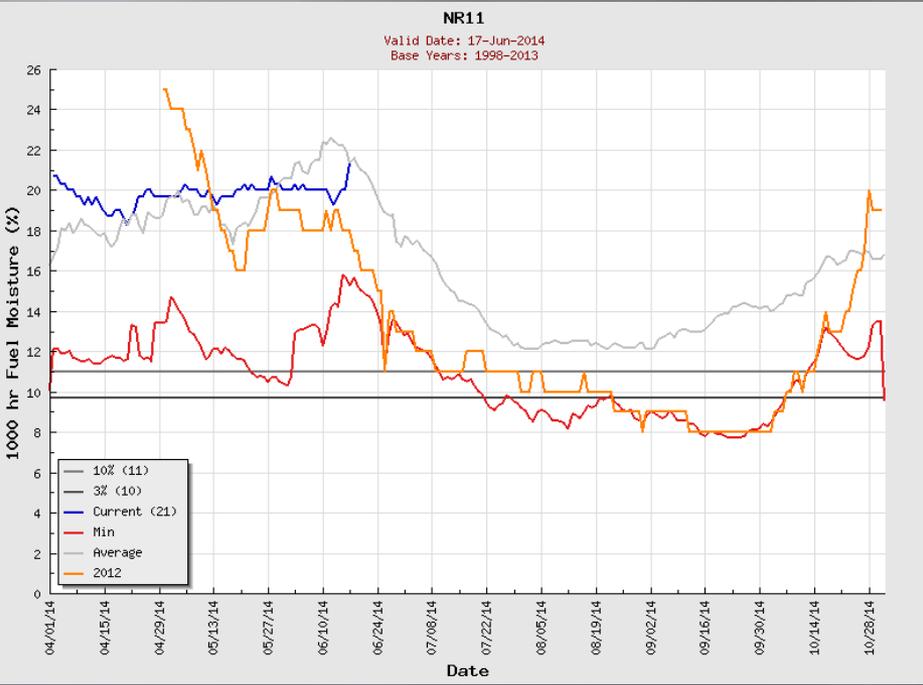
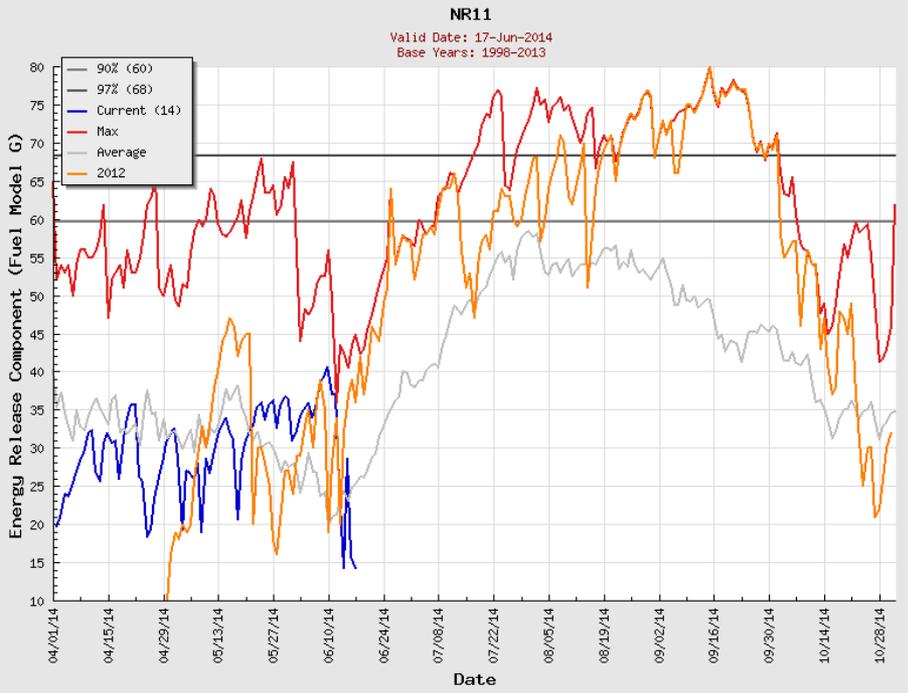
St. Mary
Gleason



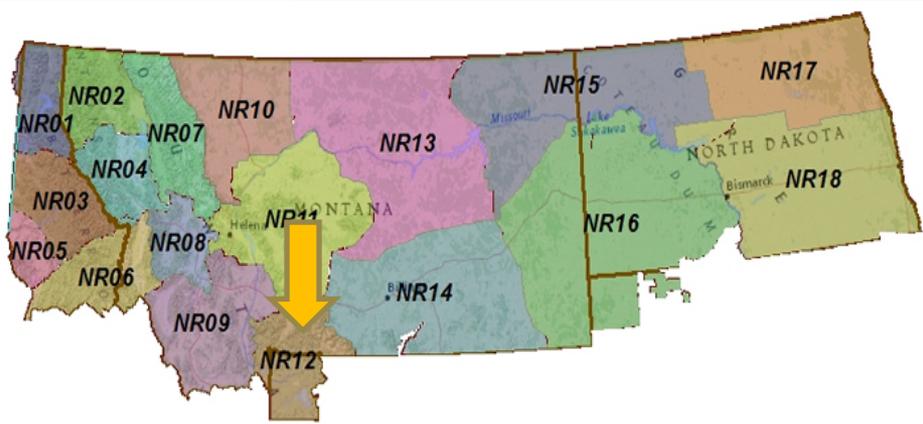
NR11 – West Central Montana



Helena
 Porphyry
 White Sulphur Springs

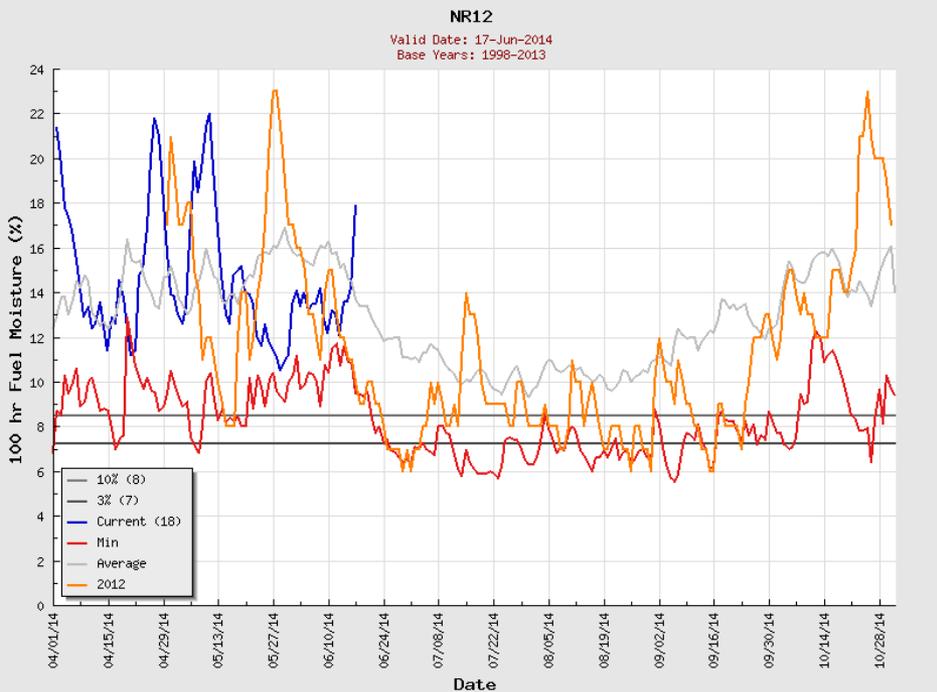
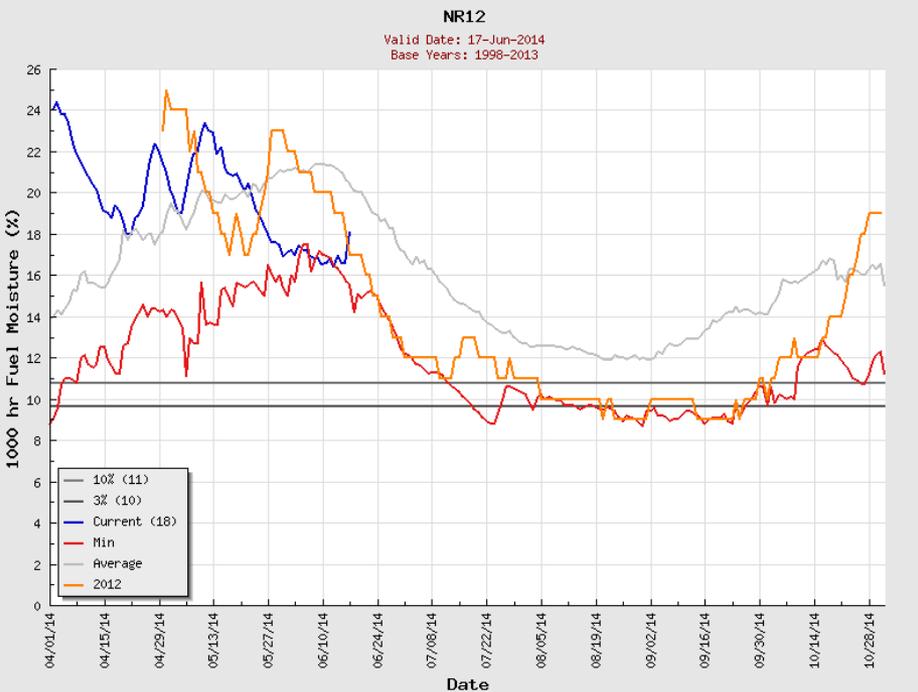
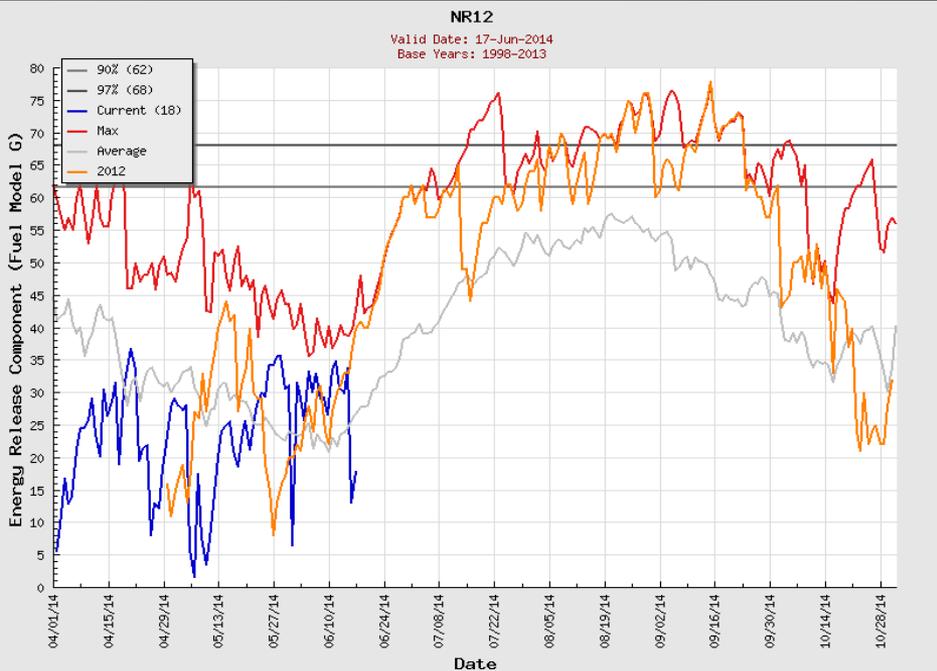


NR12 – South Central Montana and Yellowstone YP

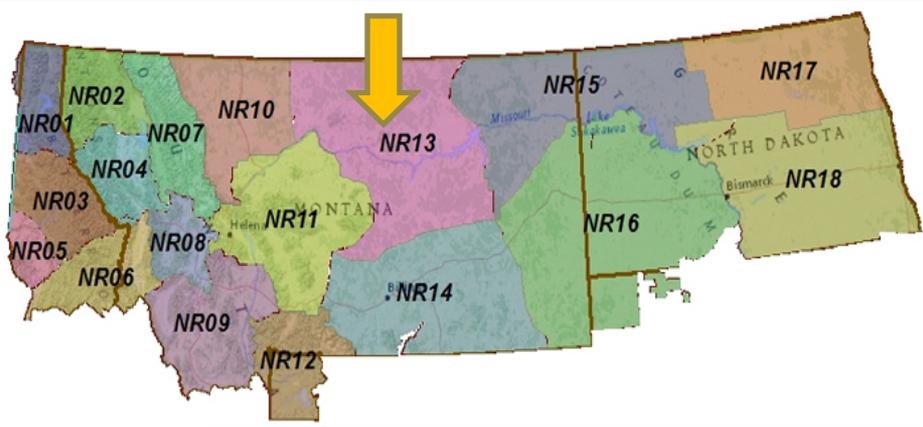


Shenango
Fishtail
Bechler

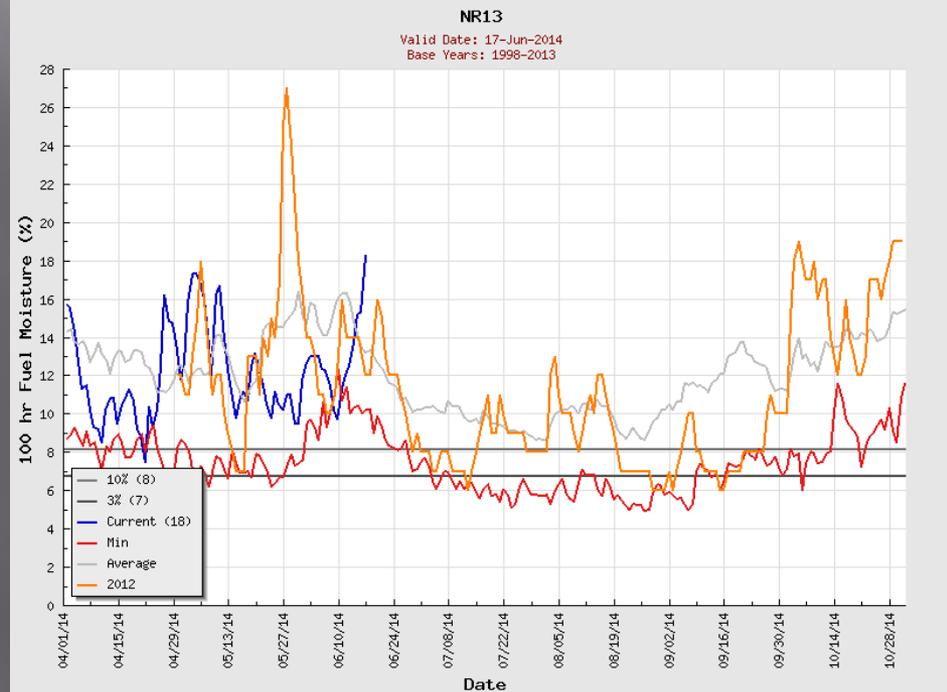
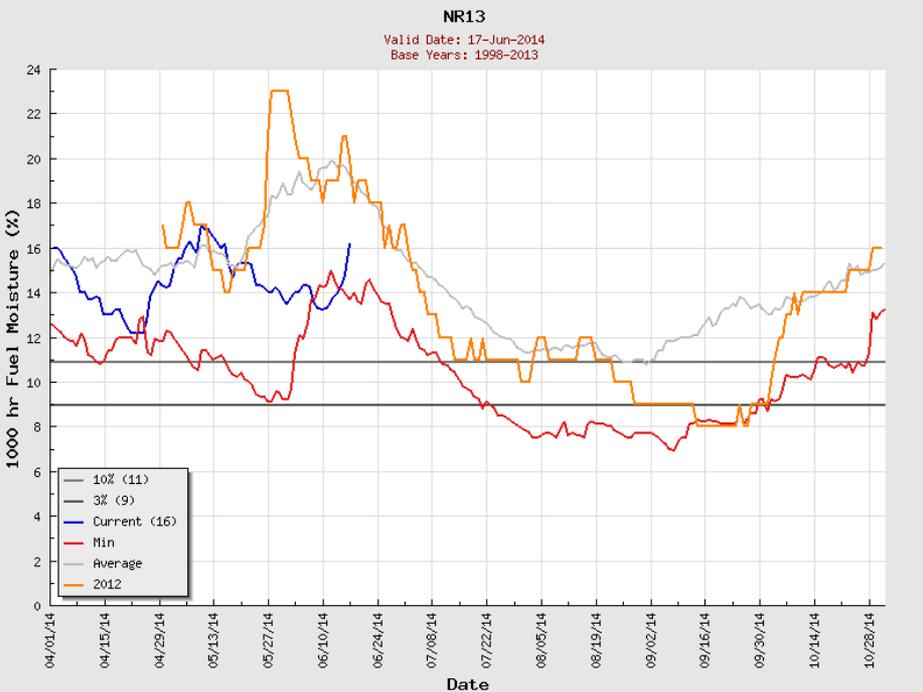
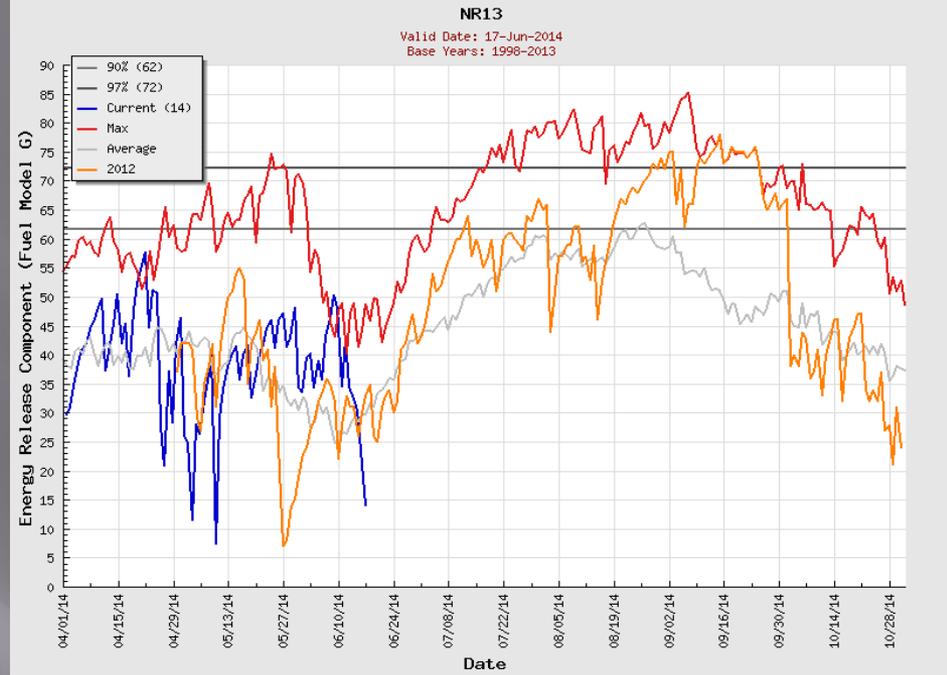
Hebgen Lake
Timbercrest
Quadrant



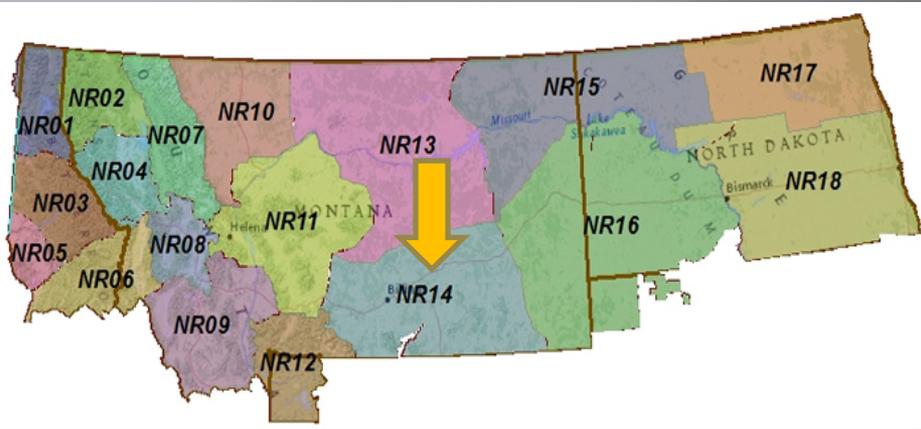
NR13 – Northern Plains and Missouri Breaks



Rocky Boy Little Bullwhacker
 Bluff Creek King Coulee
 Armells Creek South Sawmill Creek

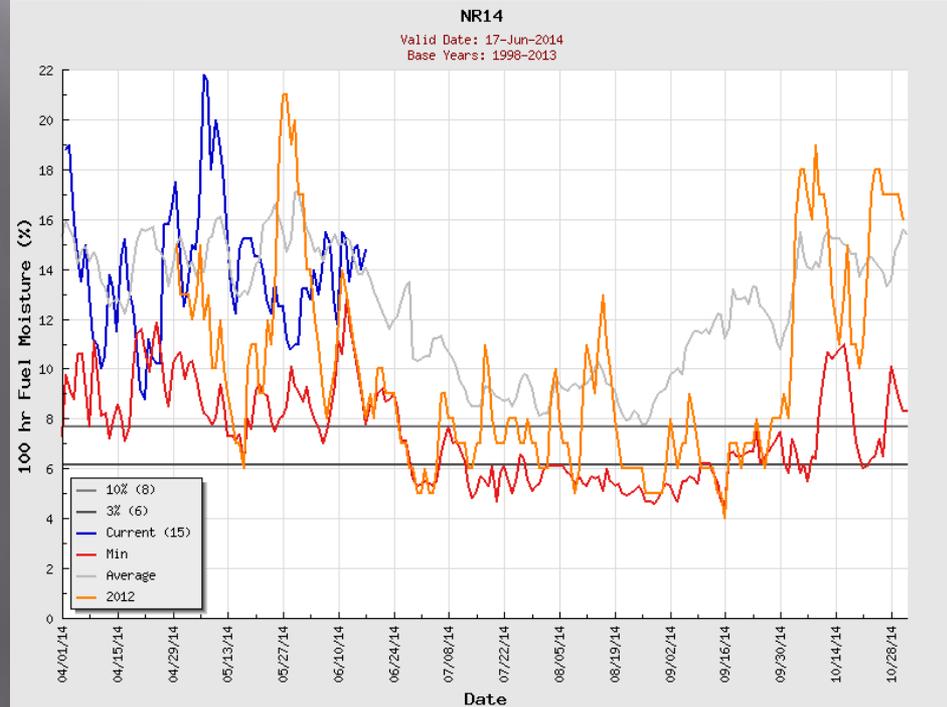
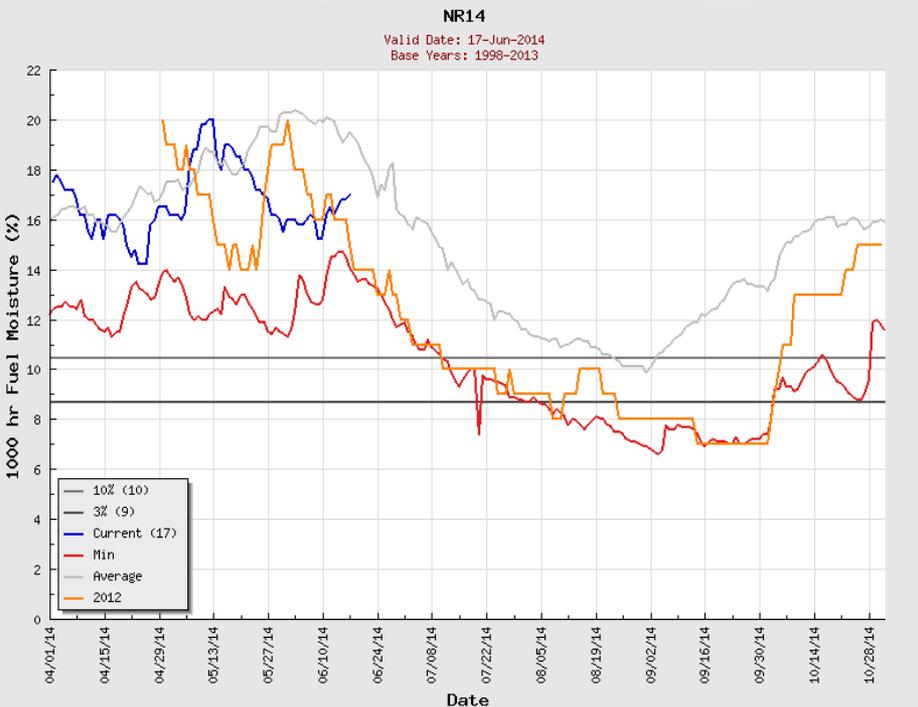
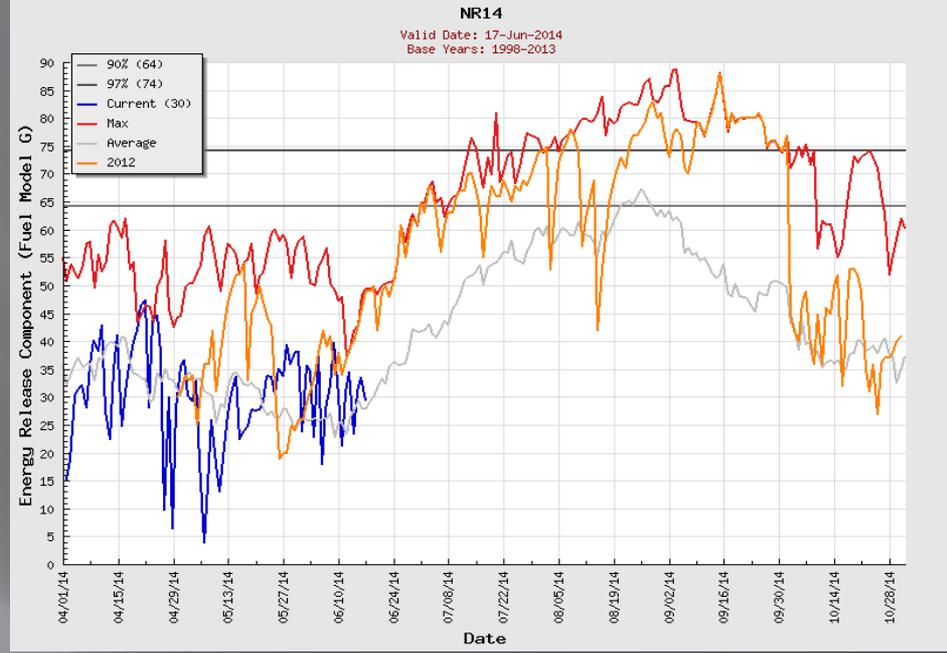


NR14 – Southern Montana (Big Horn/Powder River)

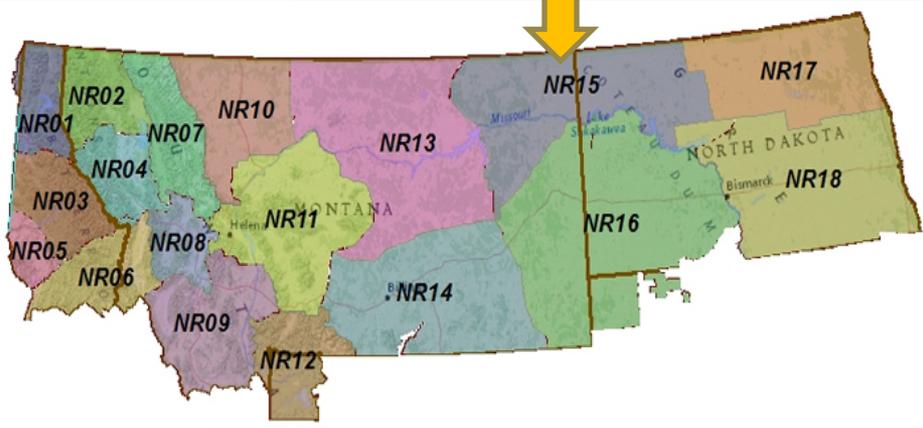


Wolf Mountain
Bighorn Mountain
Fort Howes

Pryor Mountain
Badger Peak

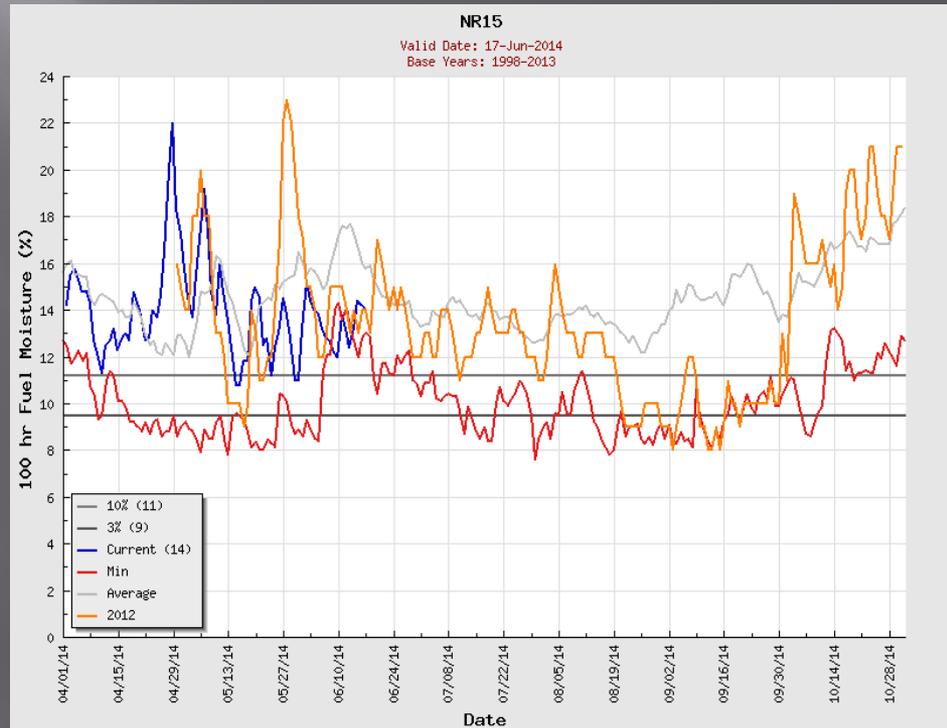
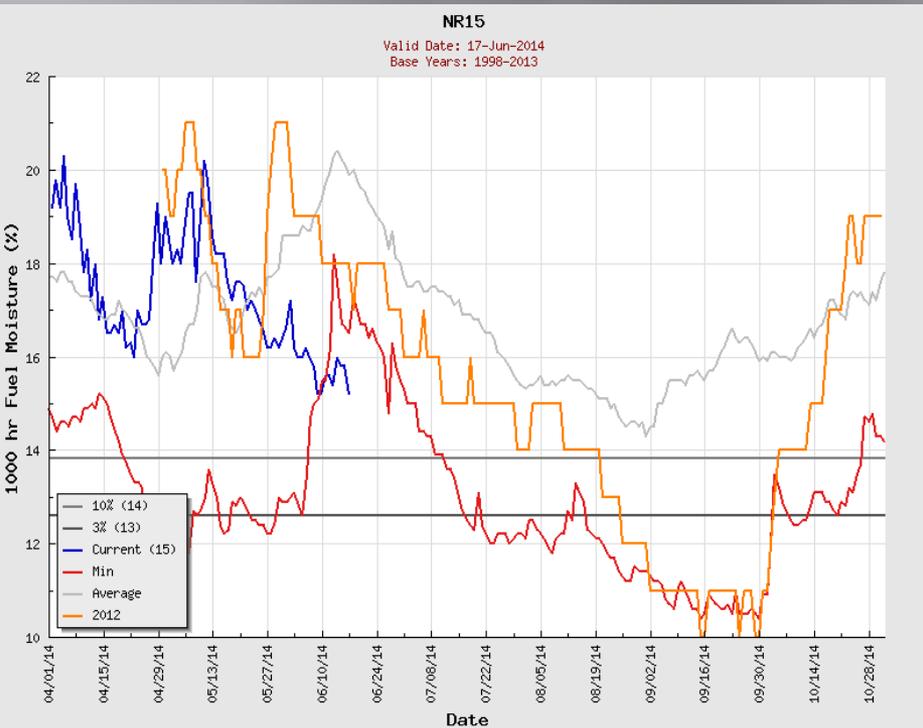
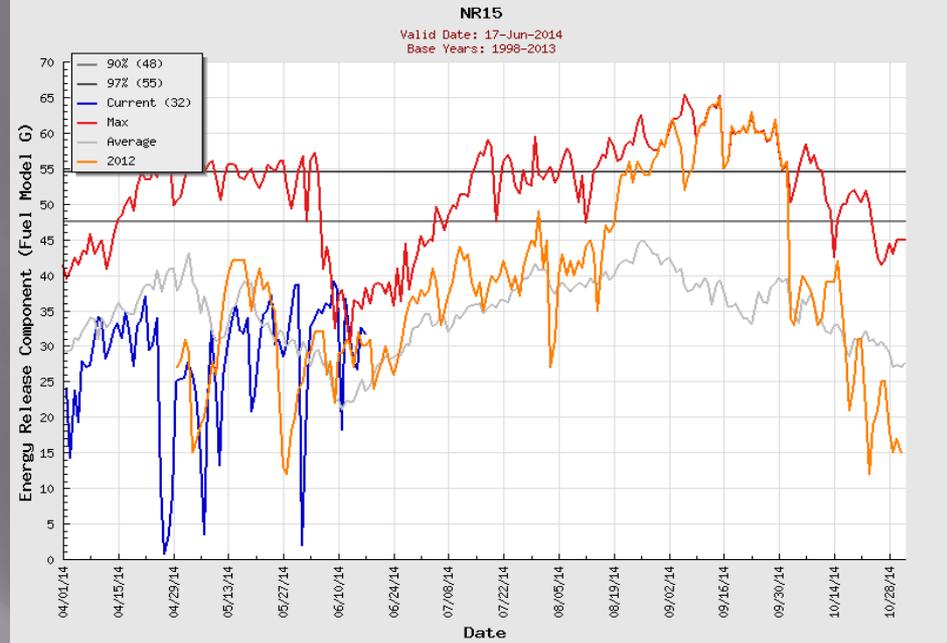


NR15 – Northeast Montana/Northwest North Dakota

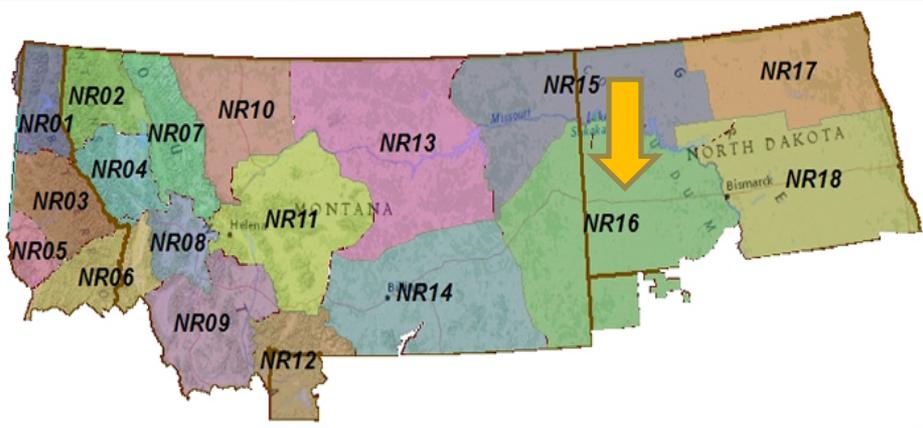


Poplar
Lostwood

Crosby
Watford City



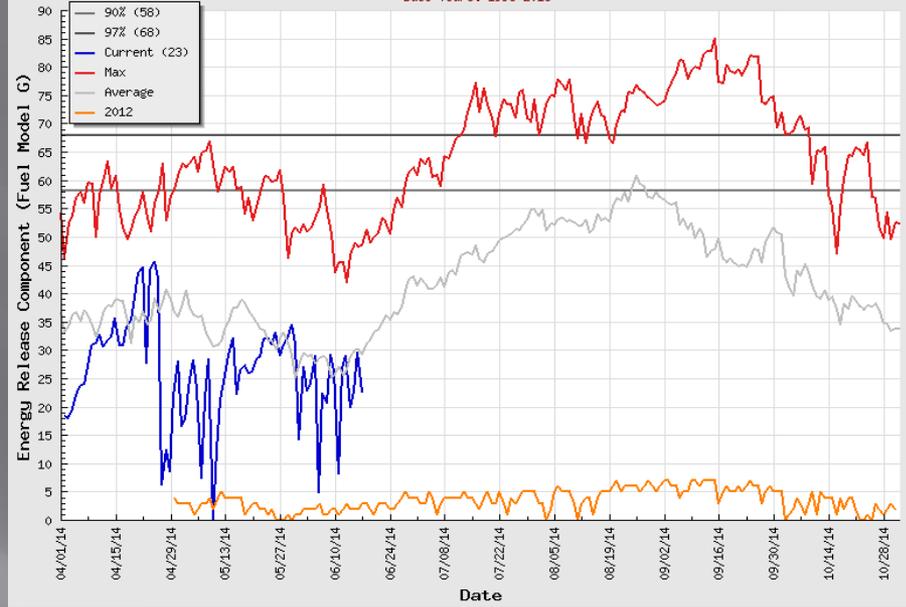
NR16 – Southeastern Montana/Southwestern South Dakota



Big Sheep Mountain
Cannonball Creek

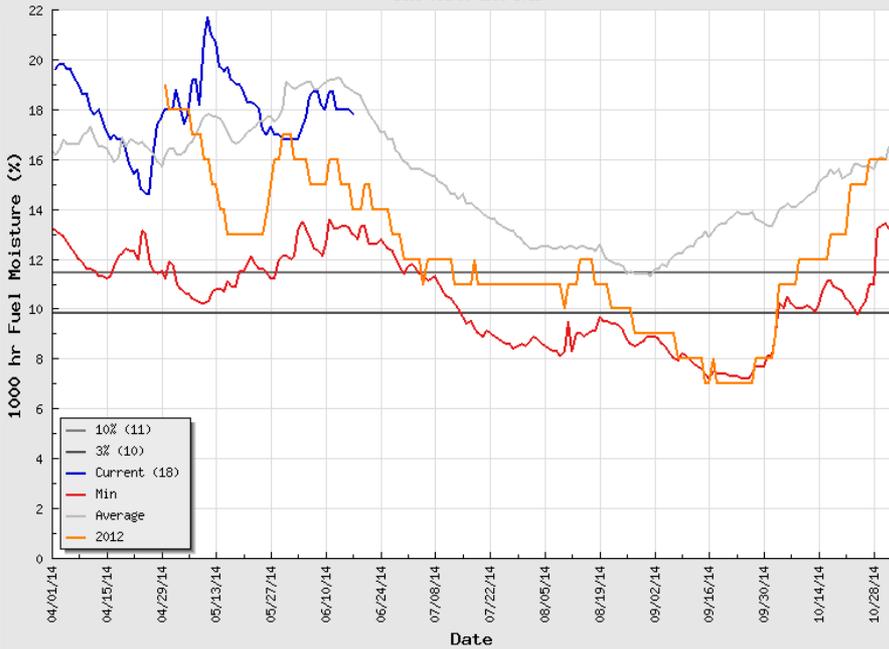
Knowlton
Sand Creek

NR16
Valid Date: 17-Jun-2014
Base Years: 1998-2013



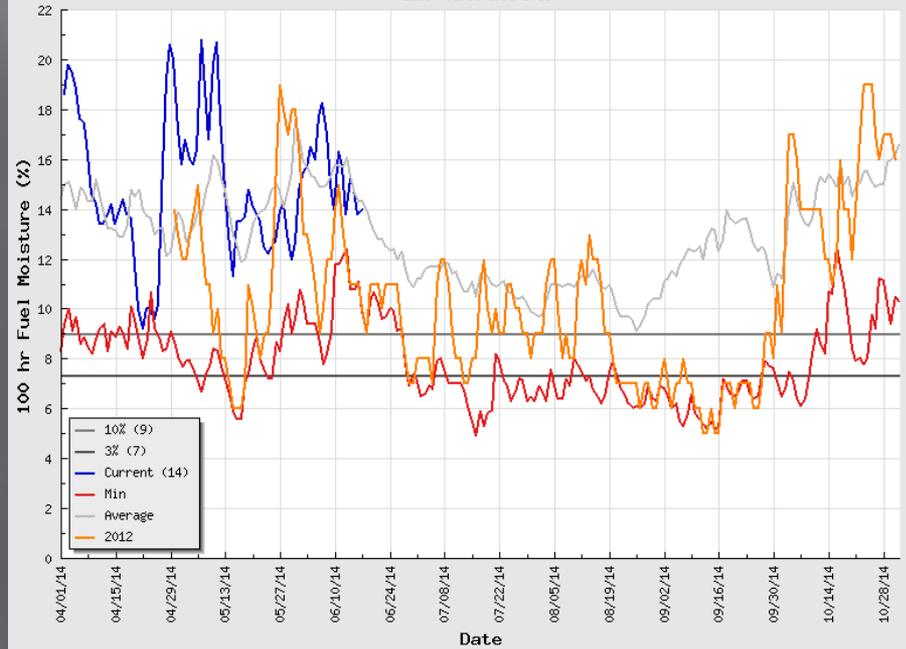
NR16

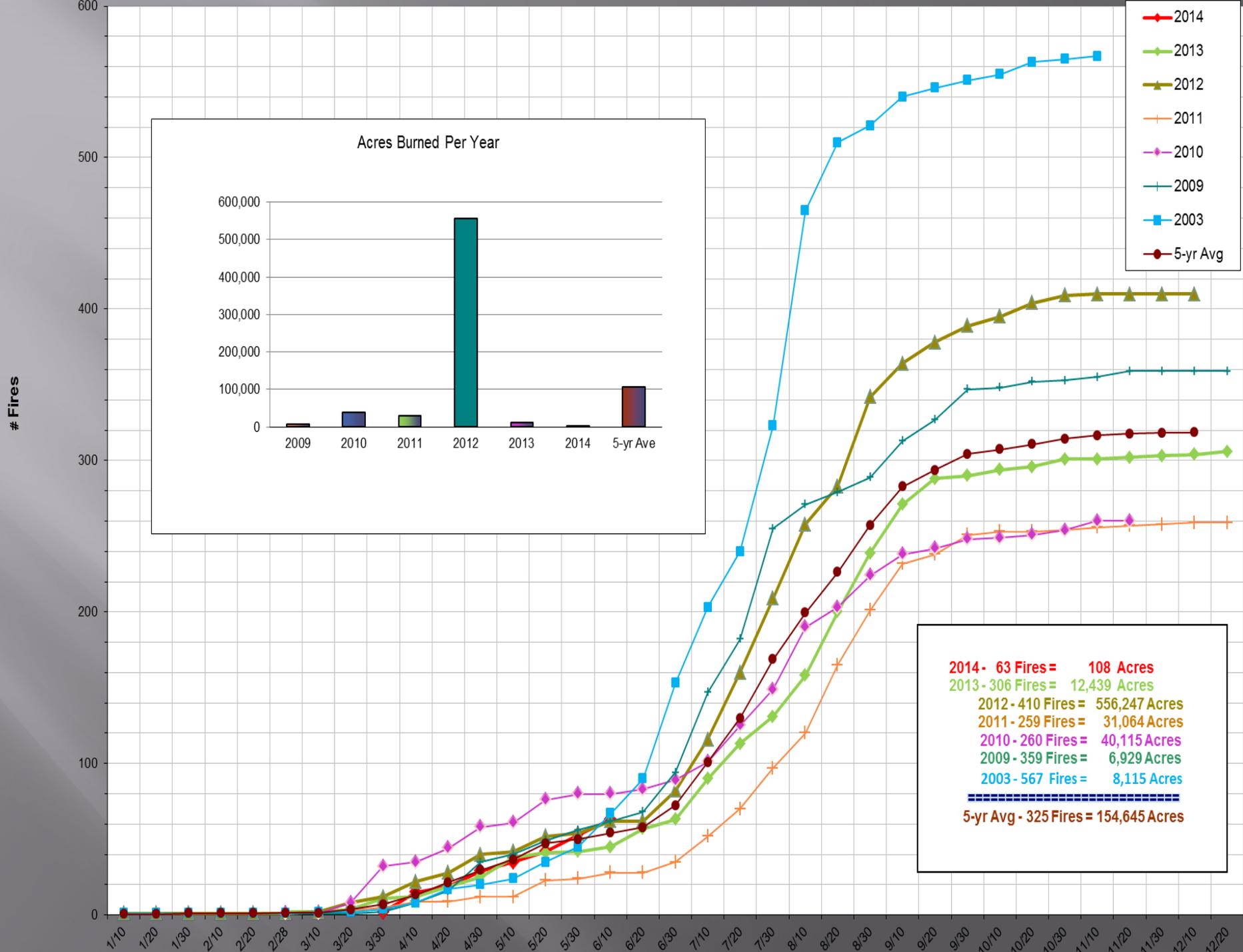
Valid Date: 17-Jun-2014
Base Years: 1998-2013



NR16

Valid Date: 17-Jun-2014
Base Years: 1998-2013





Montana Drought and Water Supply Status by County

Change from May to June 2014 – Assessed 6/12/2014

(All changes one category unless noted otherwise)

Wetter

Sheridan

Drier

Deer Lodge (-2)

Flathead

Granite (-2)

Lake

Lincoln

Powell (-2)

Mineral

Missoula

Ravalli (-2)

Sanders

Silver Bow

Beaverhead

Blaine

Broadwater (-2)

Carbon

Carter

Cascade

Chouteau

Fergus

Gallatin

Glacier

Golden Valley

Hill

Jefferson (-2)

Judith Basin

Lewis and Clark (-2)

Liberty

Madison

Meagher (-2)

Musselshell

Park

Petroleum

Phillips

Pondera

Powder River

Stillwater

Sweetgrass

Teton

Toole

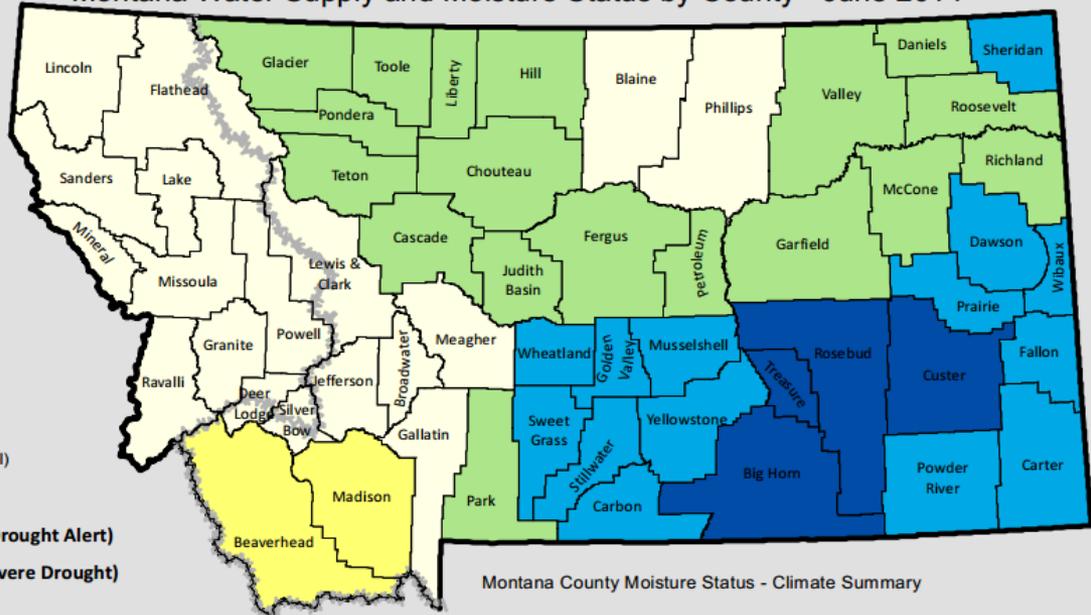
Wheatland

Yellowstone



NOAA - National Weather Service

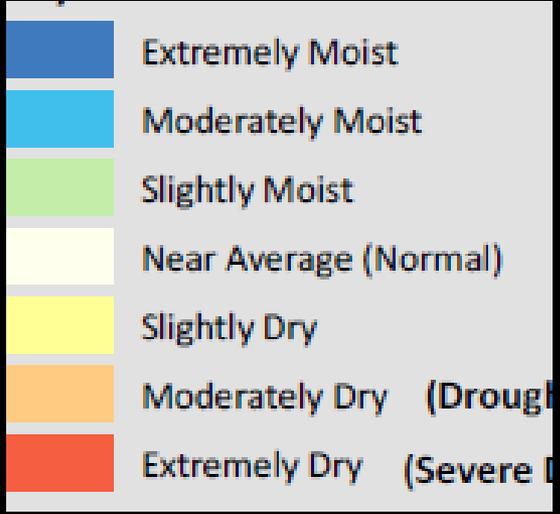
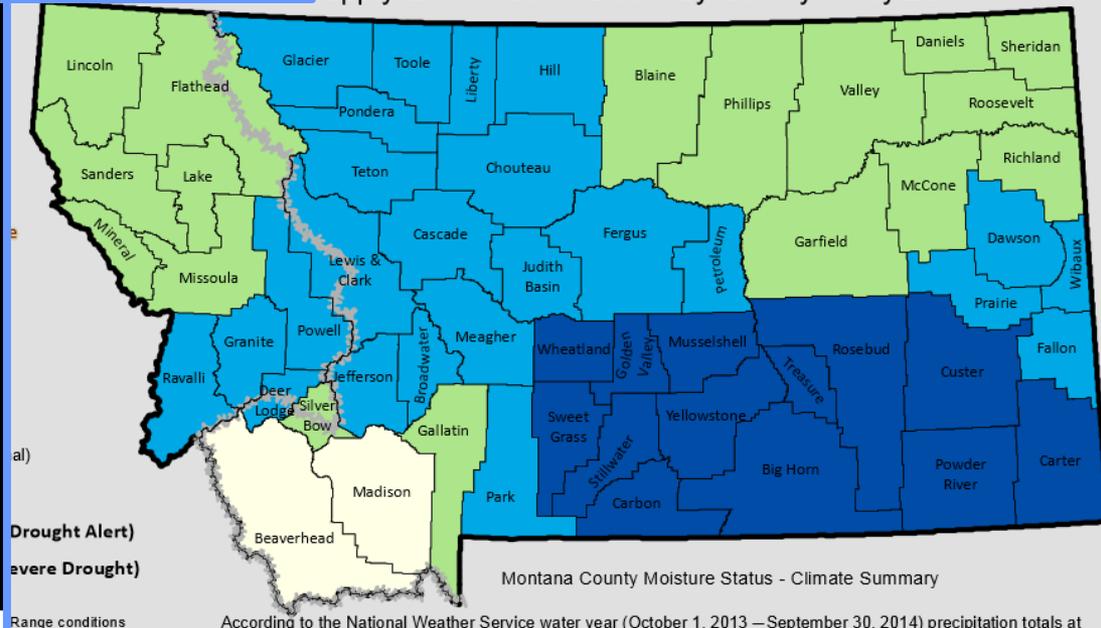
Montana Water Supply and Moisture Status by County - June 2014



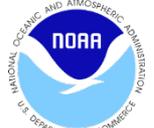
Montana Drought Status

June 2014 vs. May 2014

Montana Water Supply and Moisture Status by County - May 2014



Range conditions According to the National Weather Service water year (October 1, 2013 – September 30, 2014) precipitation totals at



Montana Drought & Water Supply Advisory Committee

June 19, 2014

National Weather Service

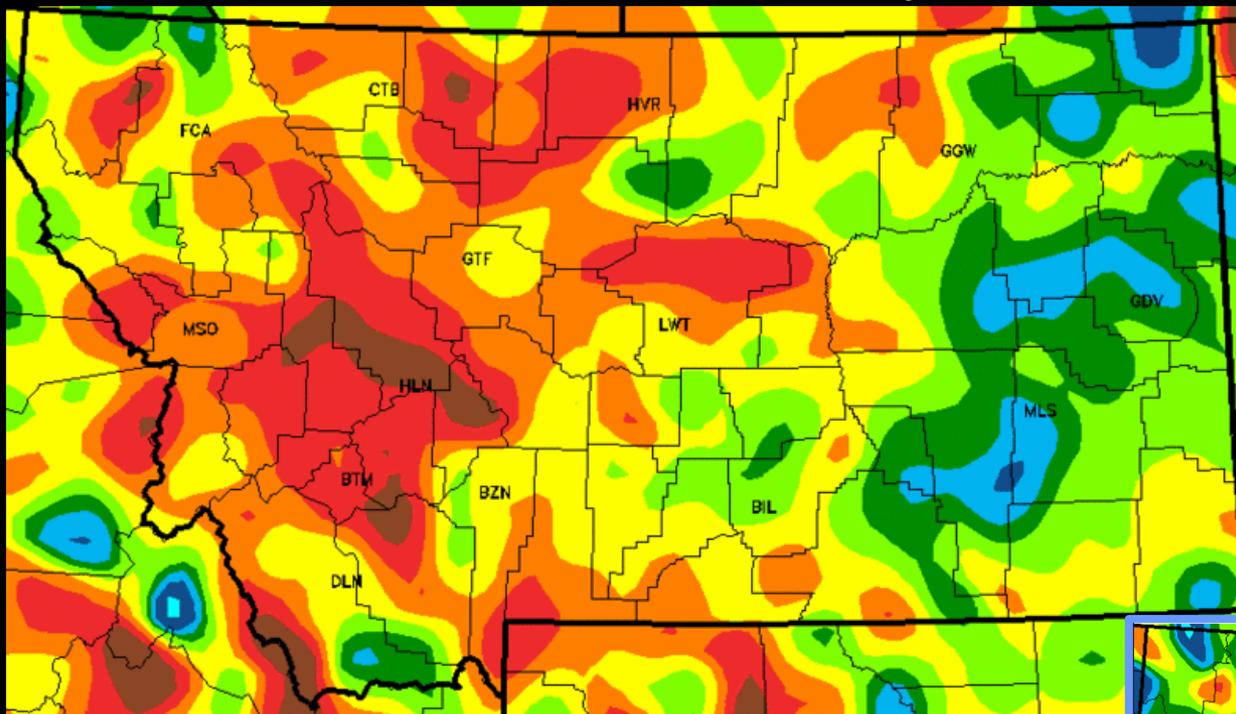
Gina Loss – Service Hydrologist



NOAA - National Weather Service

Percent of Normal Precipitation

May 2014



- Widespread areas below to well below normal west and east of the Continental Divide into central Montana
- Eastern Montana above to well above normal

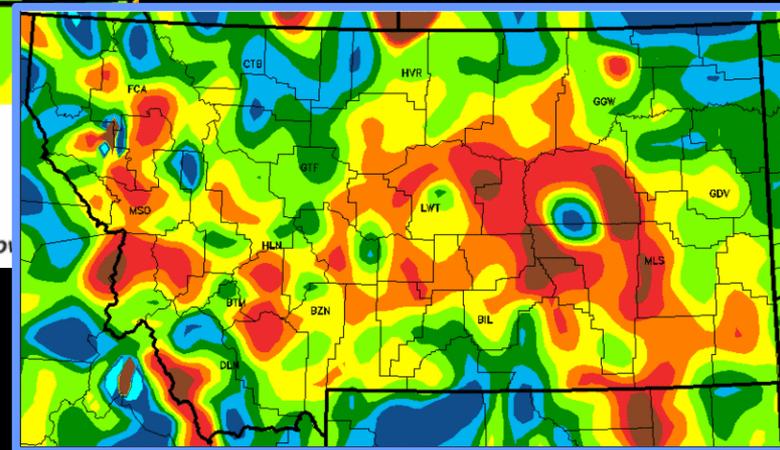
April 2014

May 2014 Percent of Normal Precipitation
Period of Normal: 1981-2010

20 40 60 85 115 150 200 400

NOTE: Data used to generate this image are PROVISIONAL AND SUBJECT TO CHANGE.

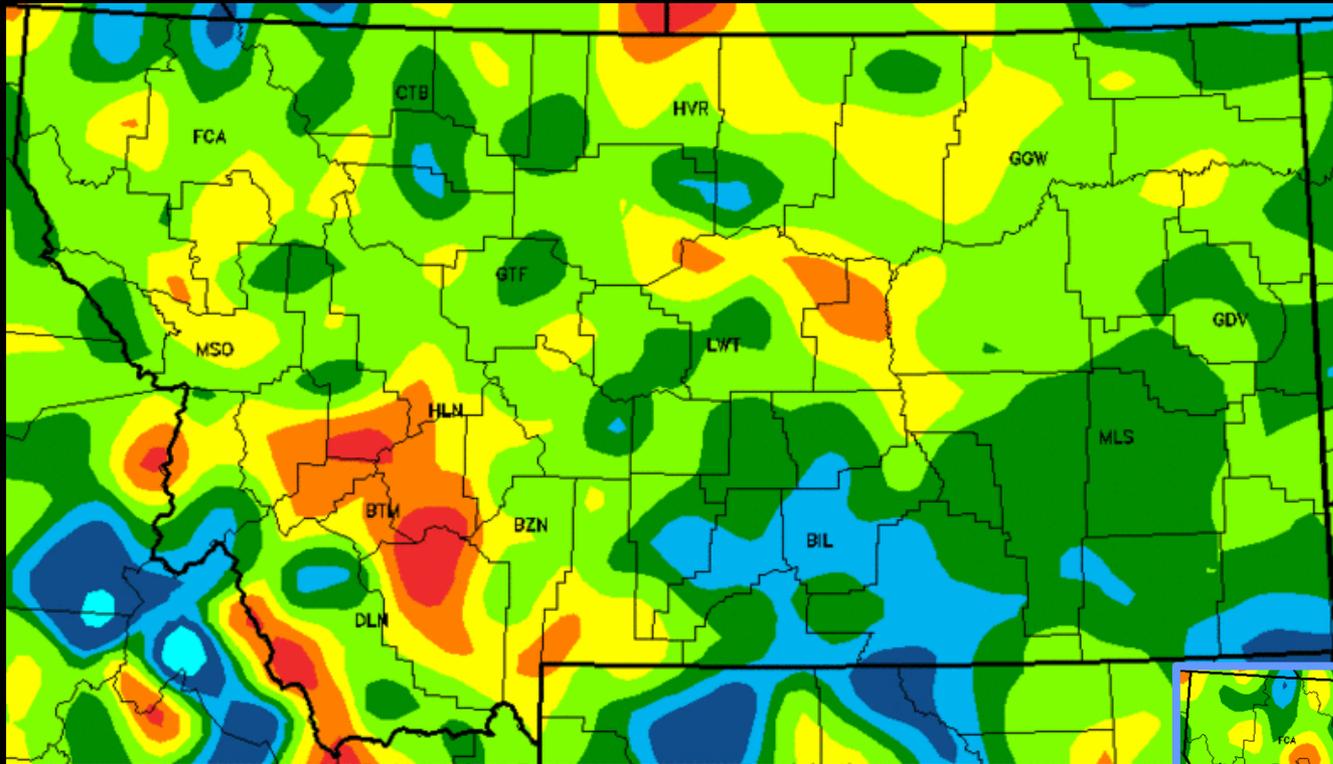
<http://www.wrh.noaa.gov>



NOAA - National Weather Service

Percent of Normal Precipitation

Water Year 2014



- ◆ October - May
- ◆ Below to well below normal portions of west, southwest, and north-central
- ◆ Above to well above normal south-central

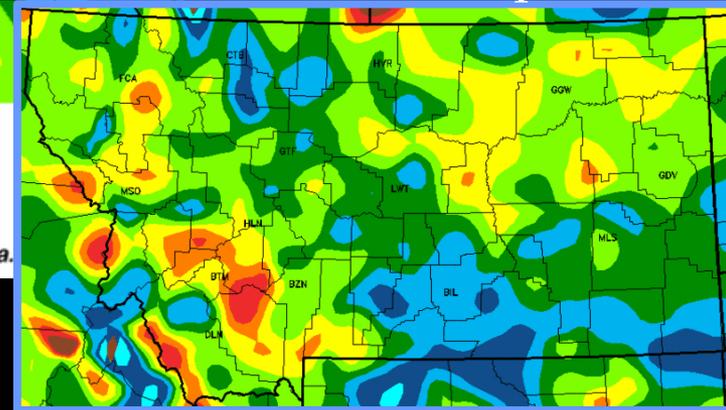
October - April 2014

Oct 2013–May 2014 Percent of Normal Precipitation
Period of Normal: 1981–2010

20 40 60 85 115 150 200 400

NOTE: Data used to generate this image are PROVISIONAL AND SUBJECT TO CHANGE.

<http://www.wrh.noaa>

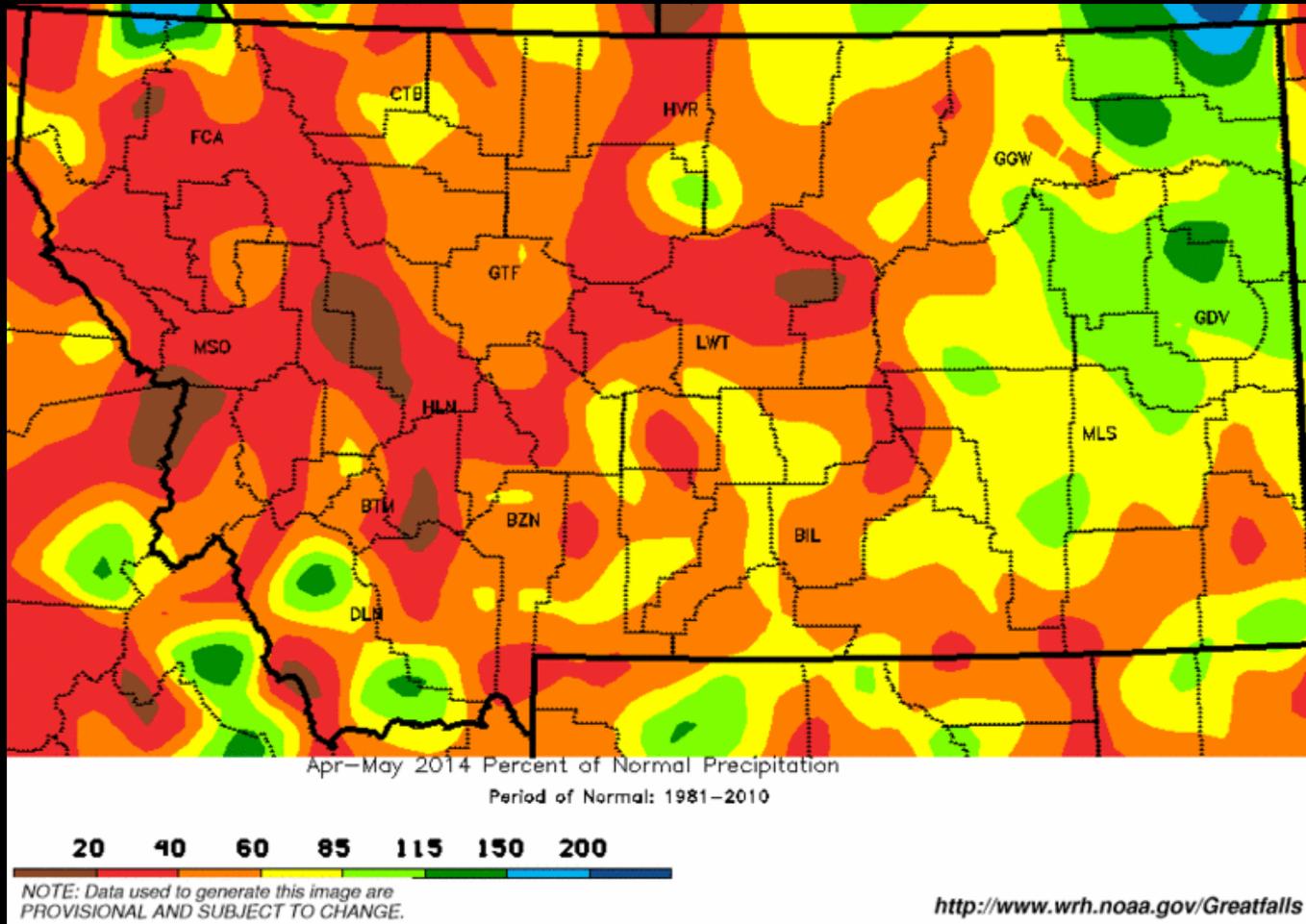


NOAA - National Weather Service

Percent of Normal Precipitation

Crop Year

- ◆ April - May
- ◆ Below to well below normal most of Montana
- ◆ Near to above normal northeast



NOAA - National Weather Service

Temperature Anomalies

June 1 - 17

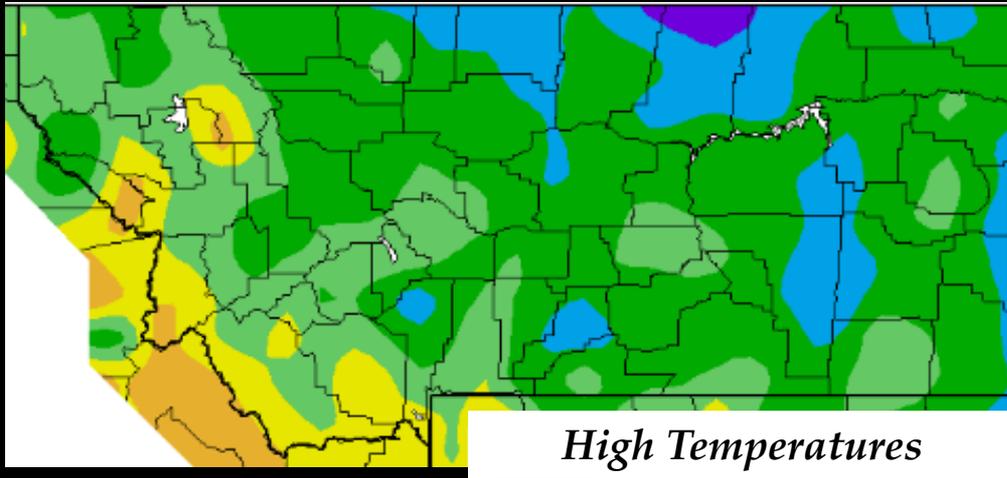
Highs

- 4 degrees below to 4 degrees above normal west

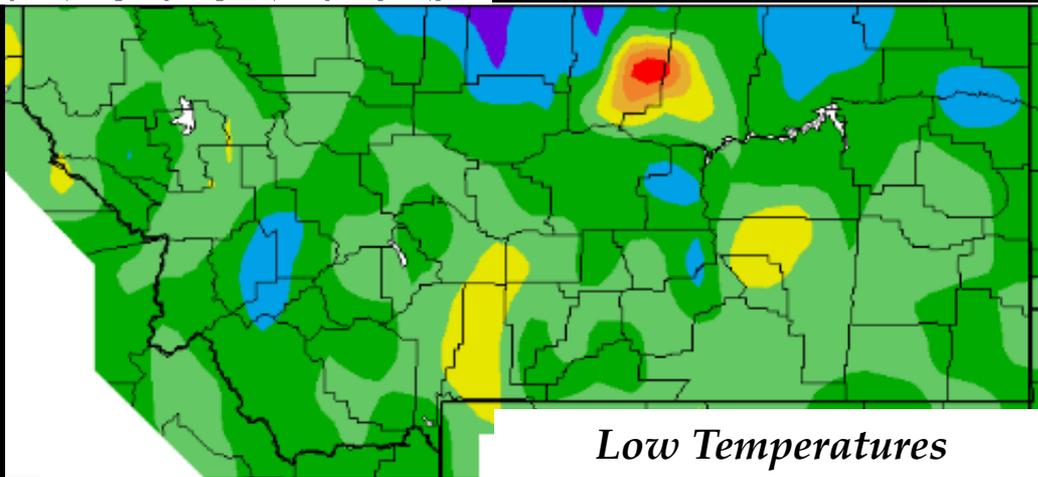
- Near to 6 degrees below normal north and east

Lows

- Near to 6 degrees below normal most of the state



High Temperatures

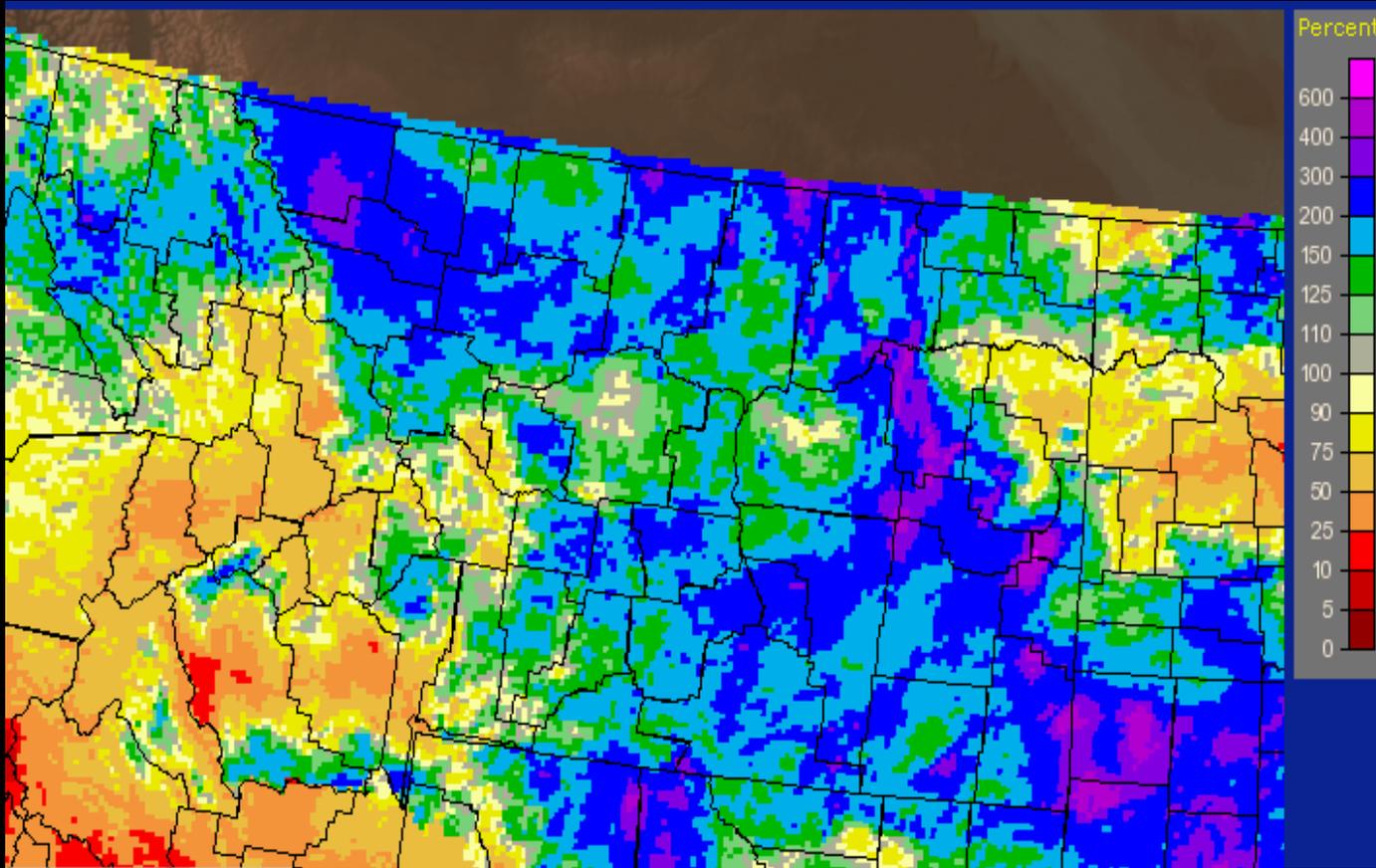


Low Temperatures



Percent of Average Precipitation

June 1 - 17

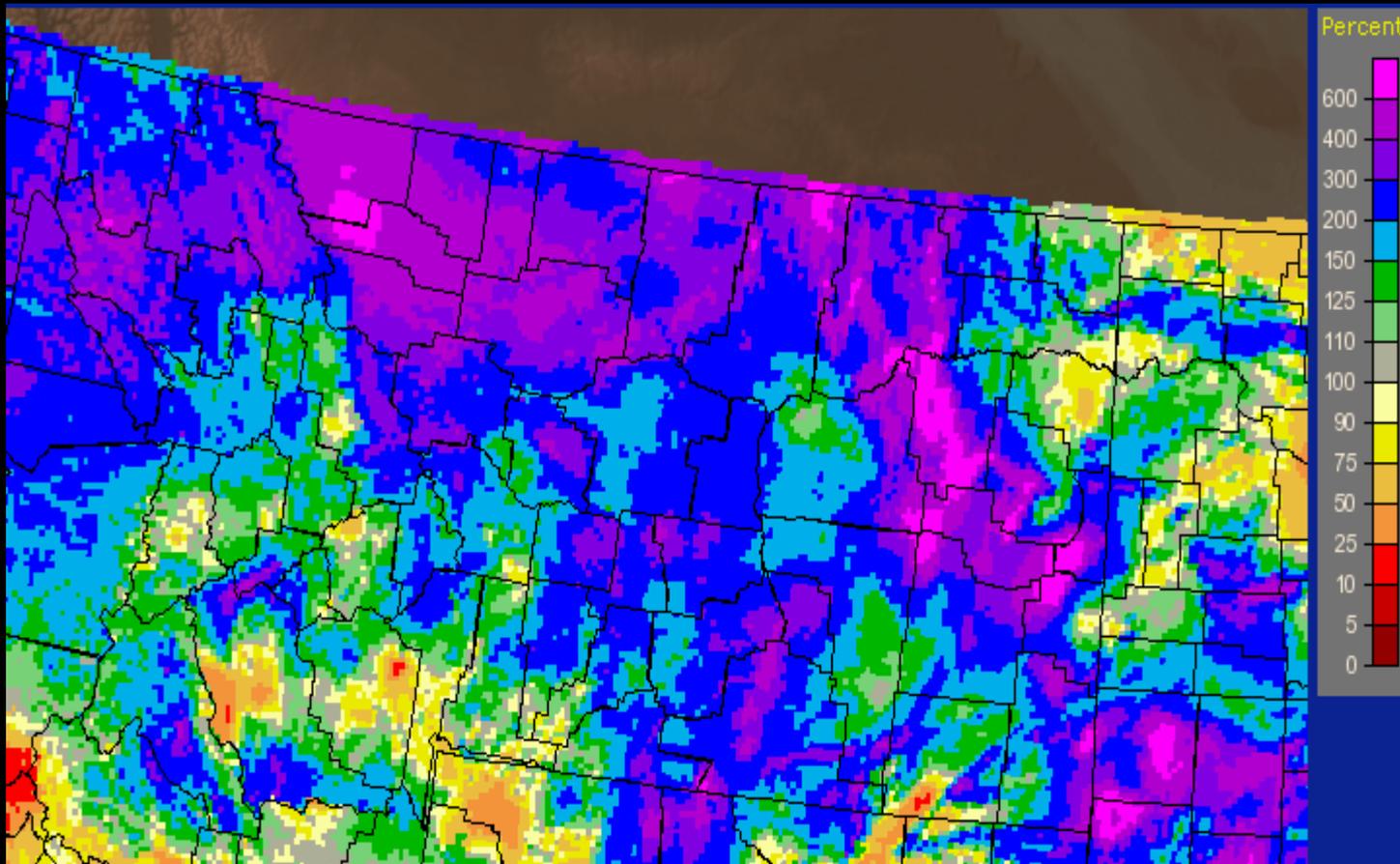


- Above to well above normal most areas northwest and east of the divide
- Below to well below normal southern portion west of the divide and southwest

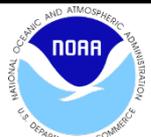


Percent of Average Precipitation

June 10 - 17

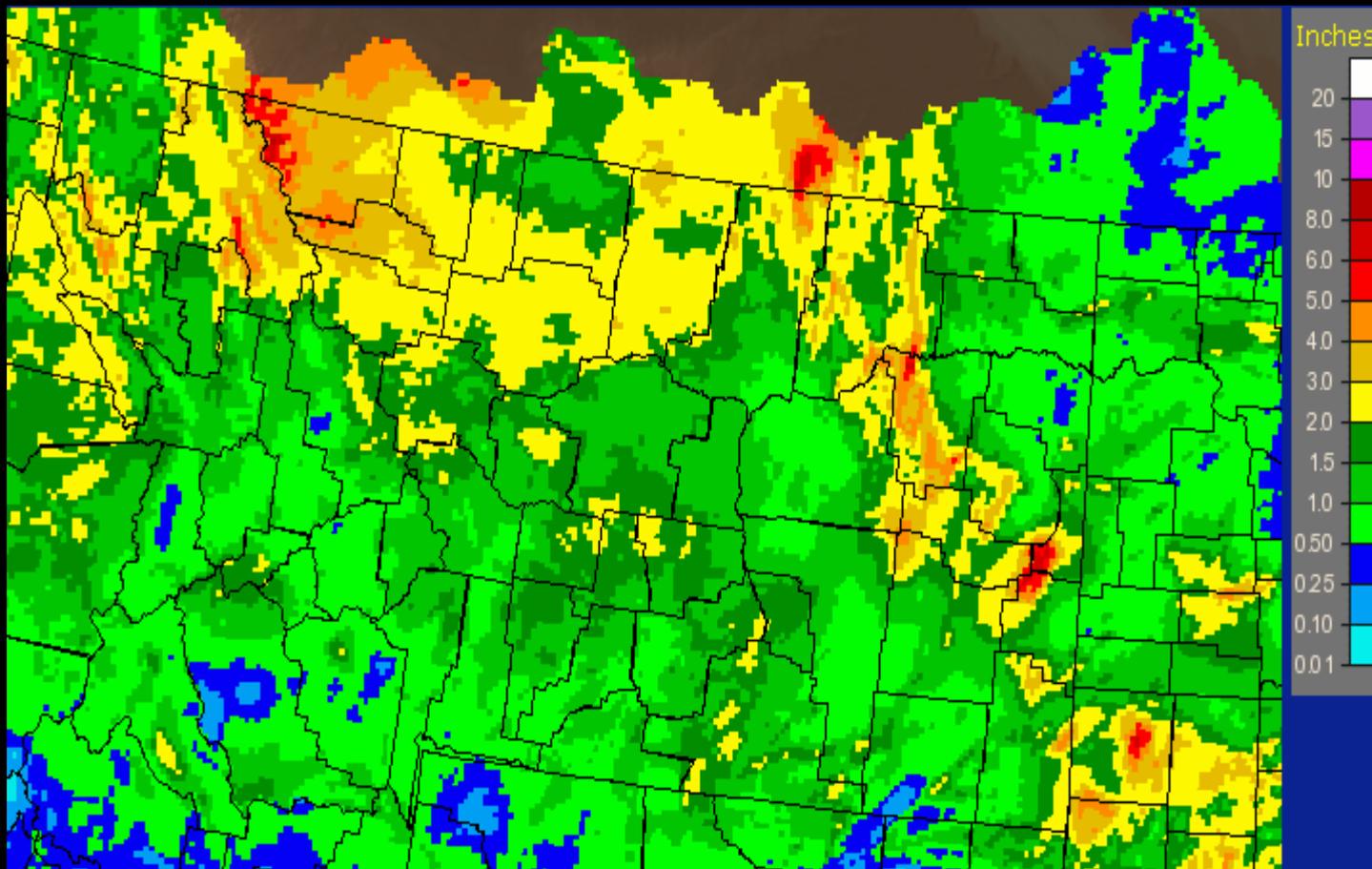


- Well above normal most areas of Montana
- Only isolated areas below normal



Observed Precipitation

June 10 - 17



- Large areas with more than 2 inches north and east
- Smaller areas with more than 3 inches

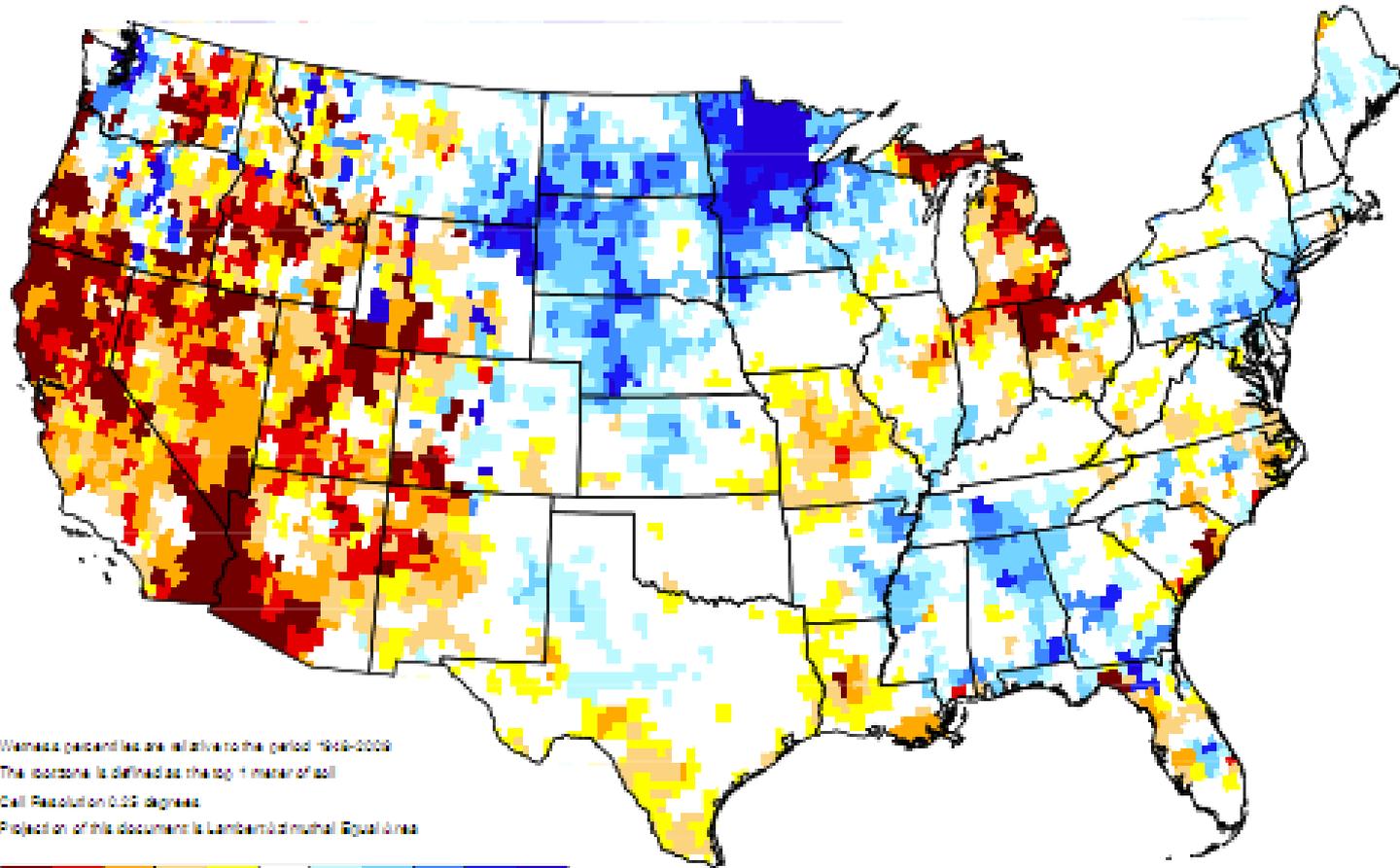


Soil Moisture – Upper 1 Meter



GRACE-Based Root Zone Soil Moisture Drought Indicator

June 16, 2014



Wetness percentiles are relative to the period 1998-2009.
The rootzone is defined as the top 1 meter of soil.
Cell Resolution 0.25 degree.
Projection of this document is Lambert Conformal Equal Area.



<http://drought.unl.edu/MonitoringTools/NASA/GRACEDataAssimilation.aspx>



NOAA - National Weather Service

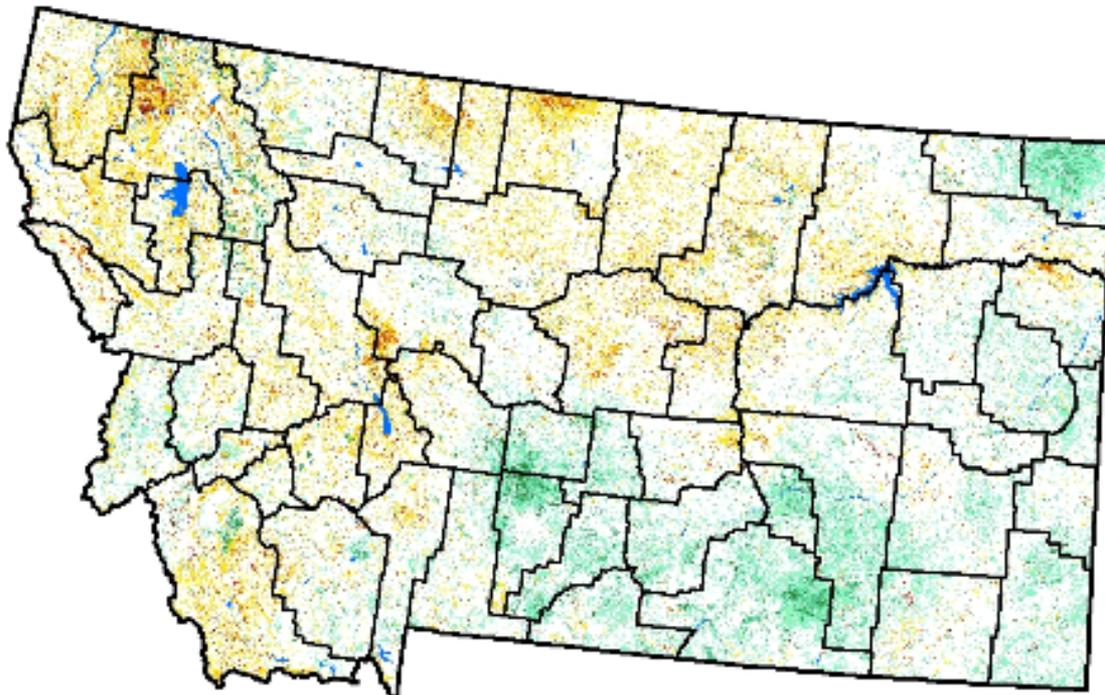
Vegetation Drought Response Index

Complete: Montana

June 2, 2014

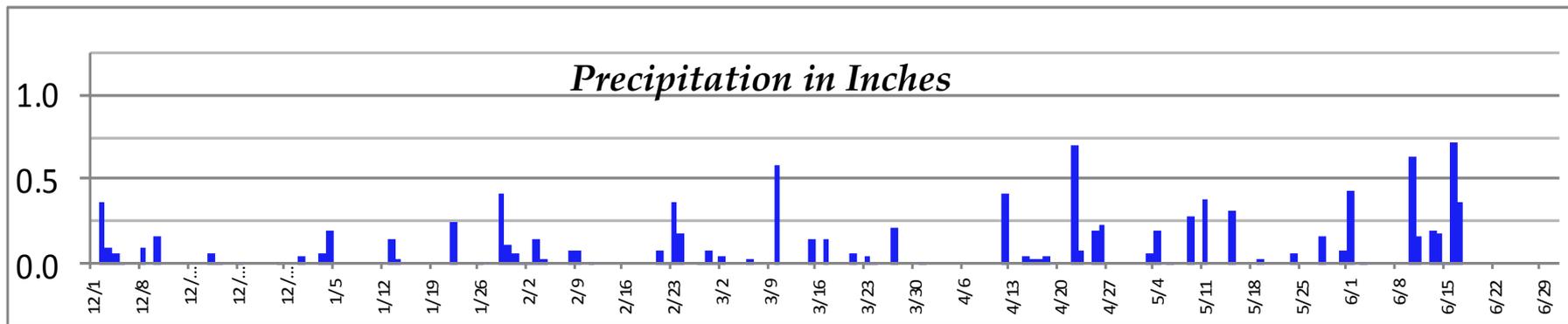
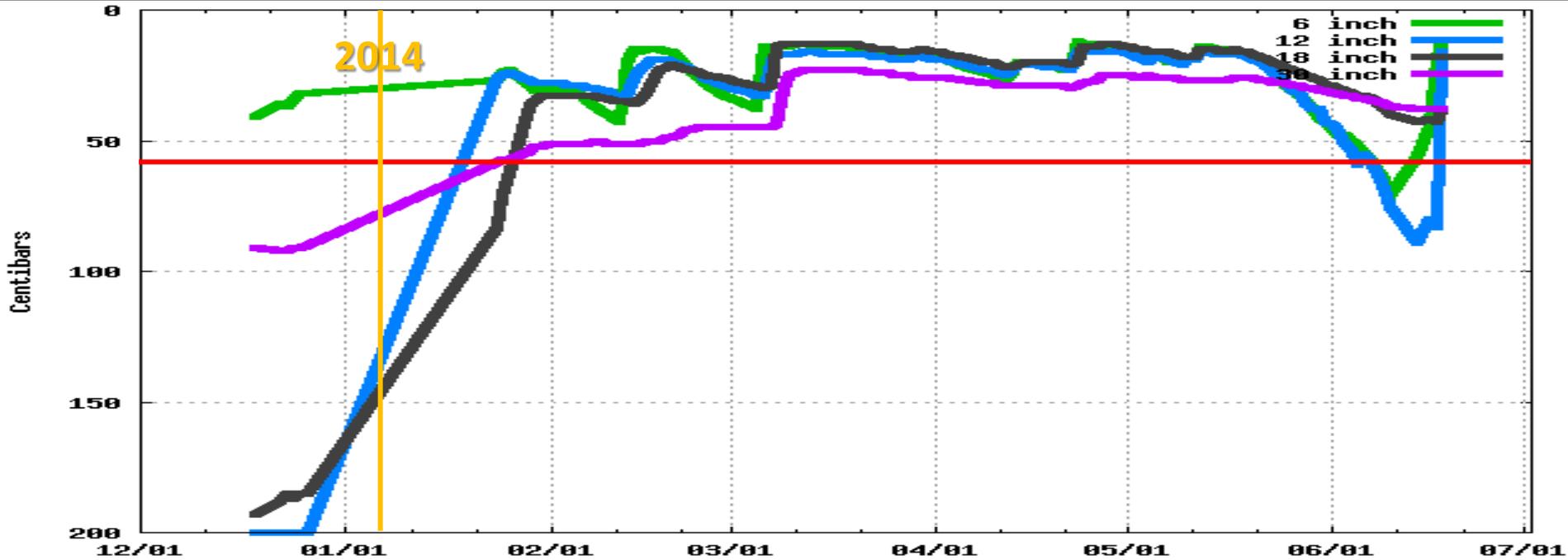
Vegetation Condition

- Extreme Drought
- Severe Drought
- Moderate Drought
- Pre-Drought
- Near Normal
- Unusually Moist
- Very Moist
- Extremely Moist
- Out of Season
- Water



NOAA - National Weather Service

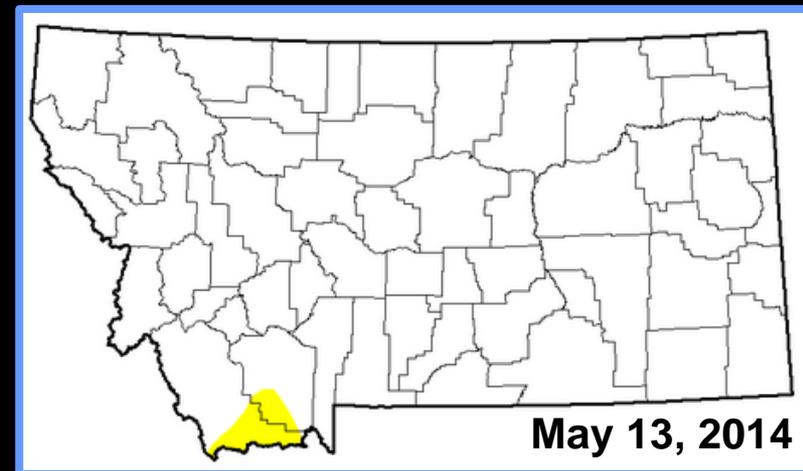
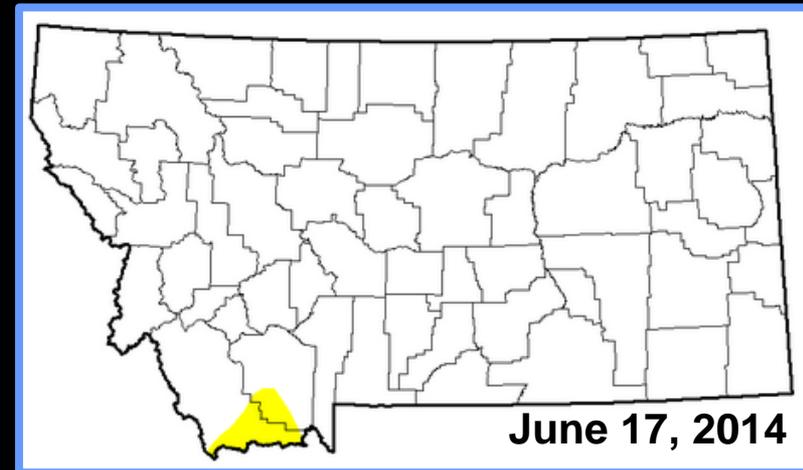
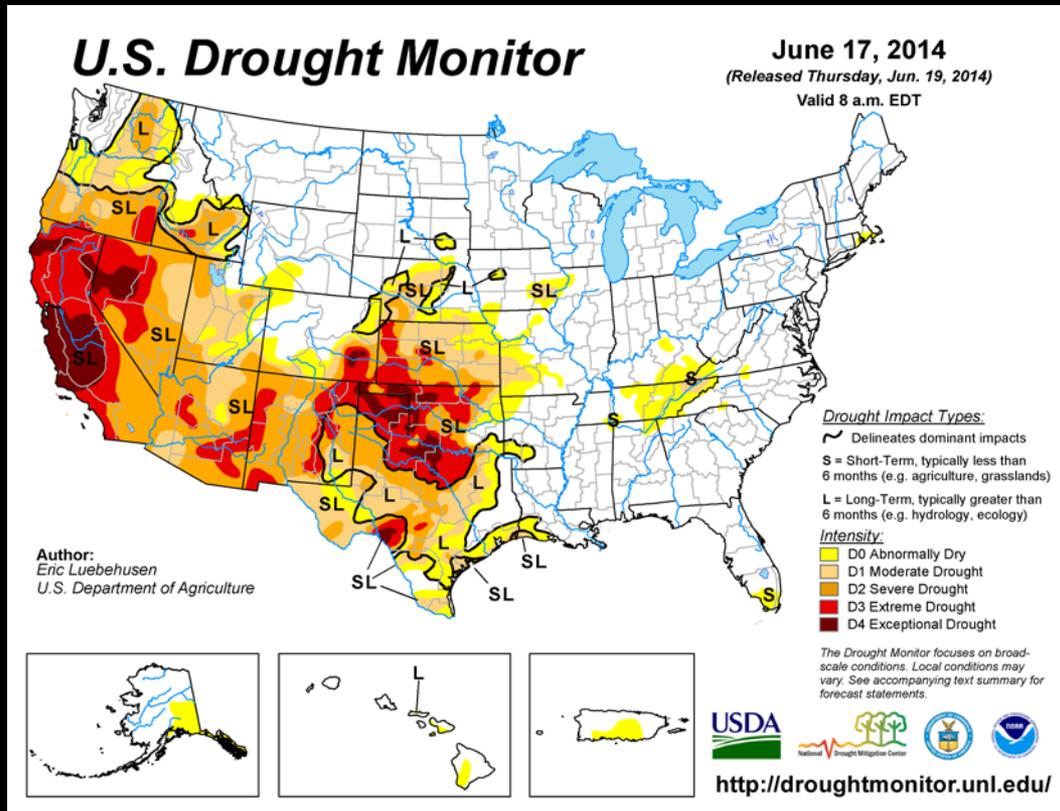
Great Falls Soil Moisture



NOAA - National Weather Service

National Drought Monitor

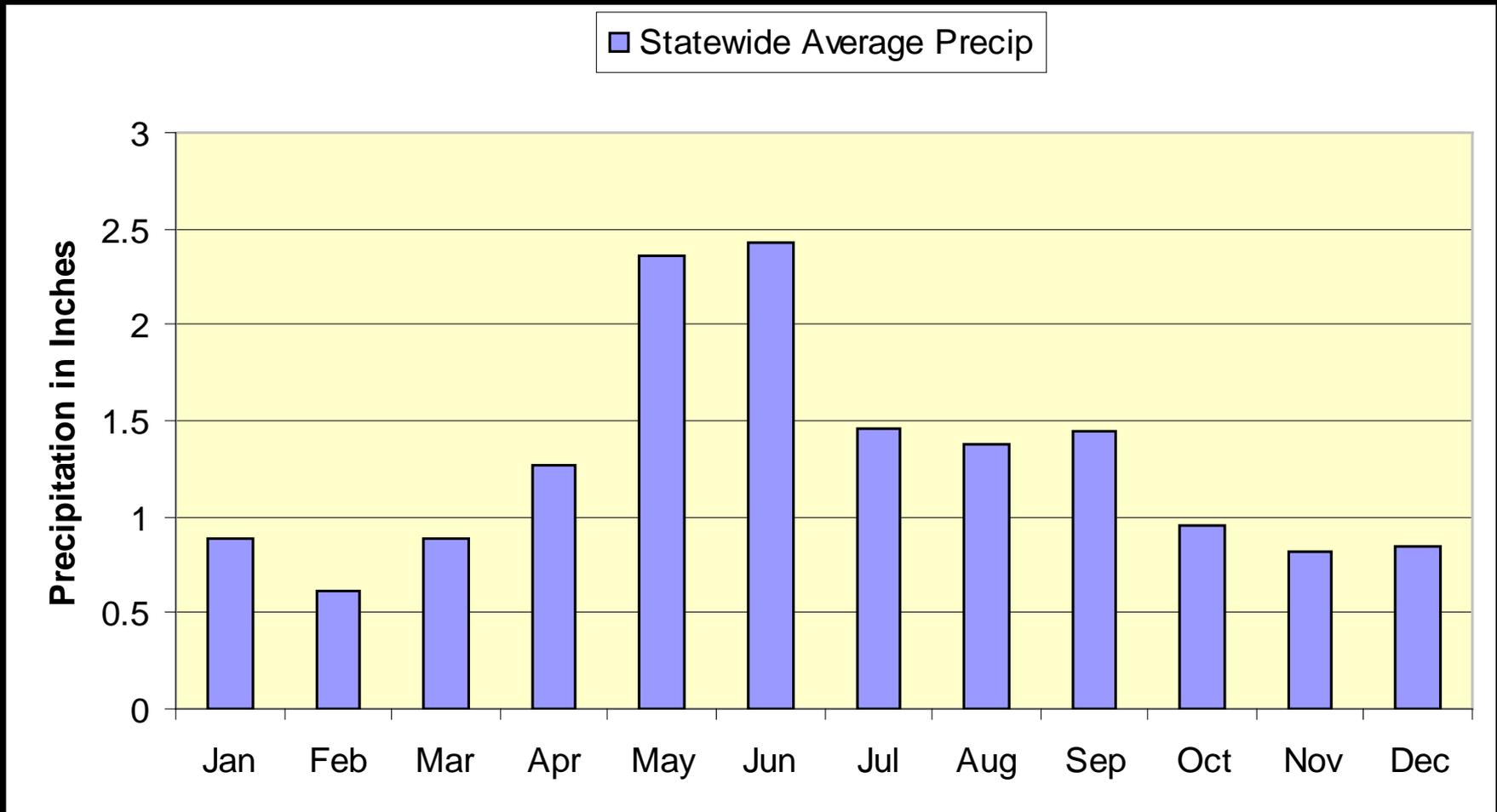
Issued June 19



NOAA - National Weather Service

Statewide Average Precipitation

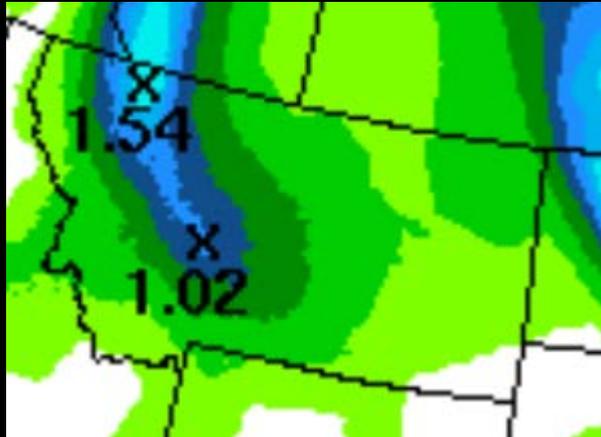
May and June highest precipitation months



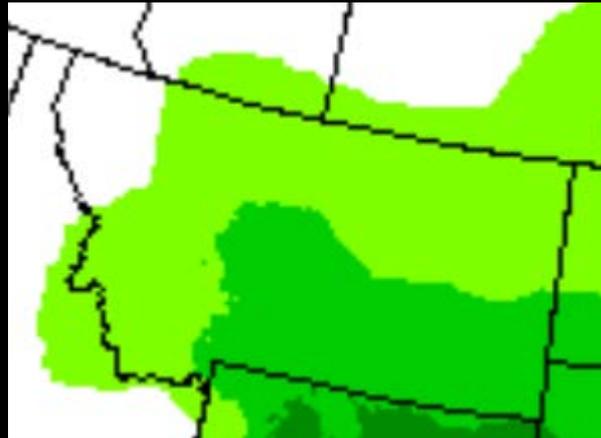
NOAA - National Weather Service

7-Day Precipitation Forecast

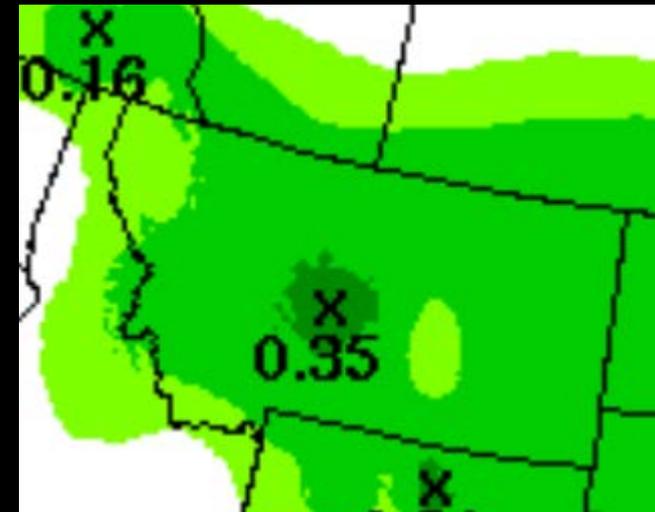
Thursday-Saturday



Sunday-Monday



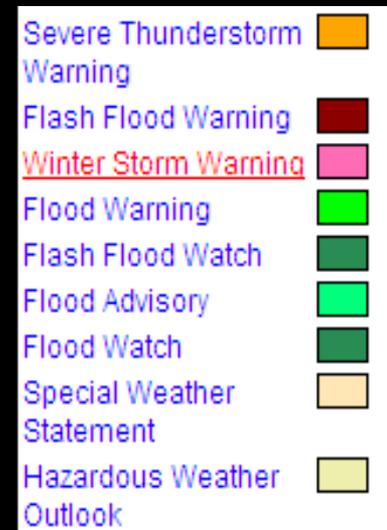
Tuesday-Wednesday



NOAA - National Weather Service

Active Flood Products

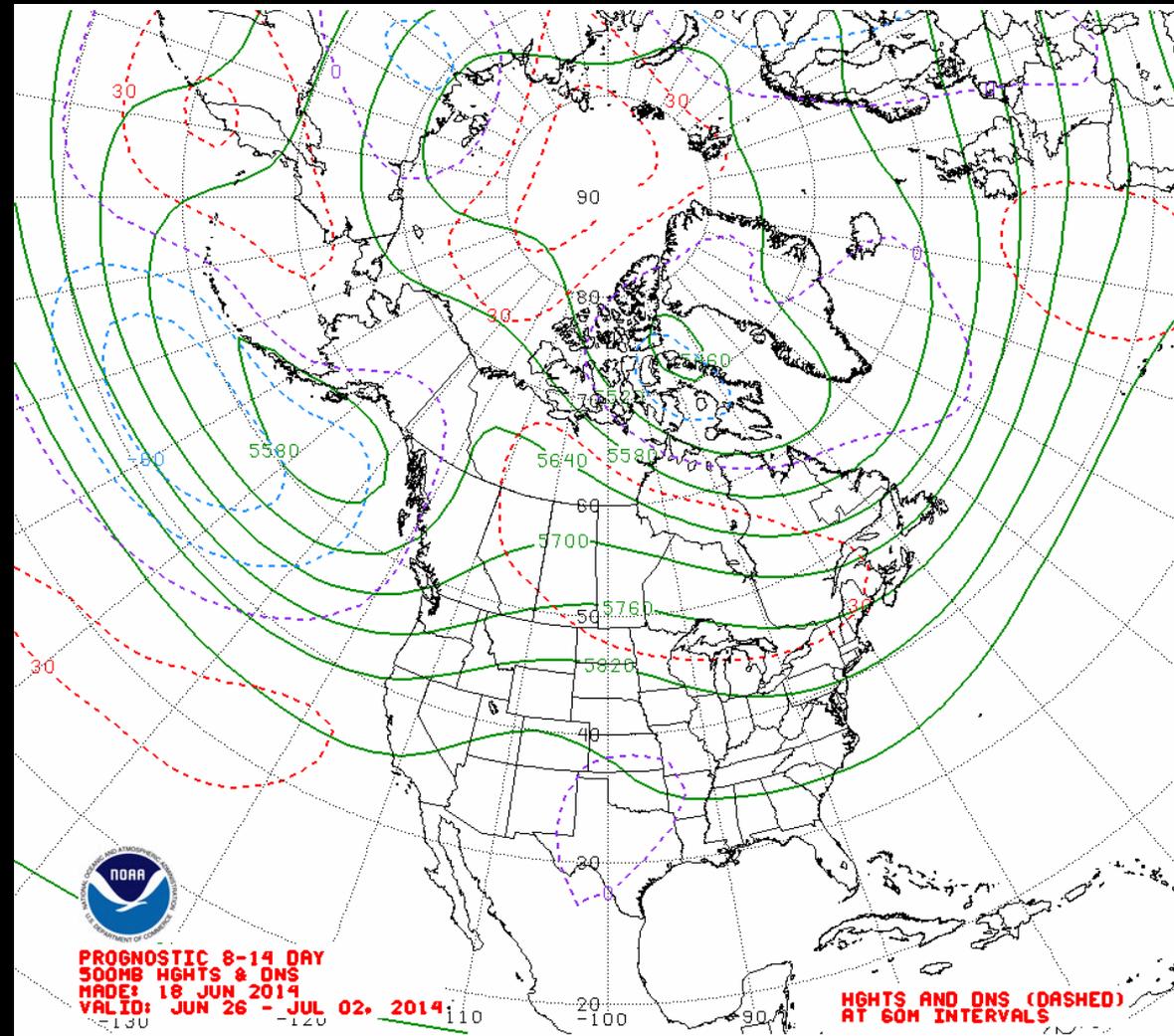
Based on conditions as of June 19



8 to 14 Day Outlook

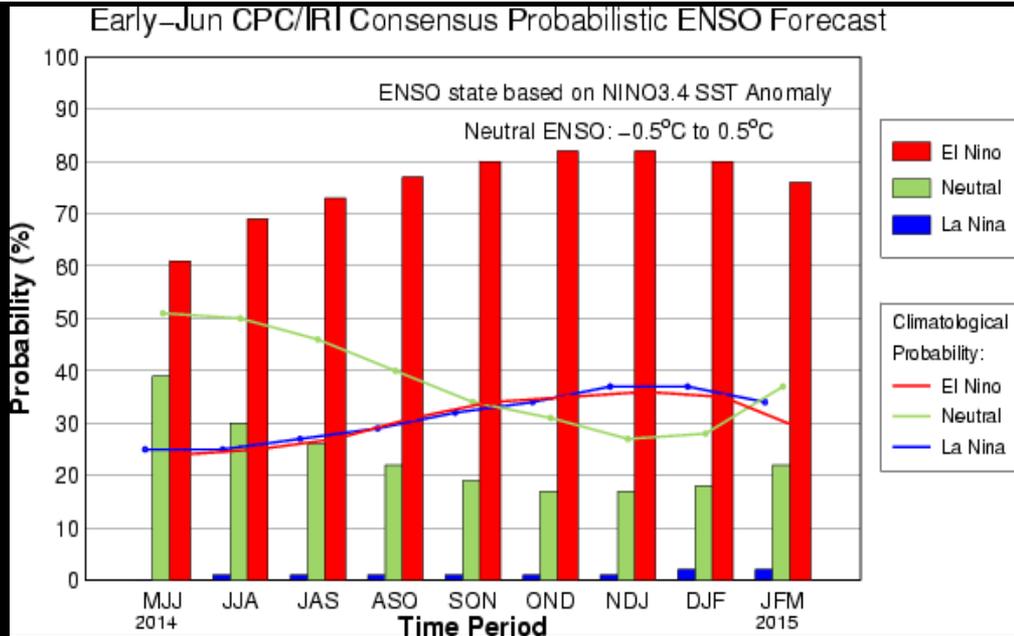
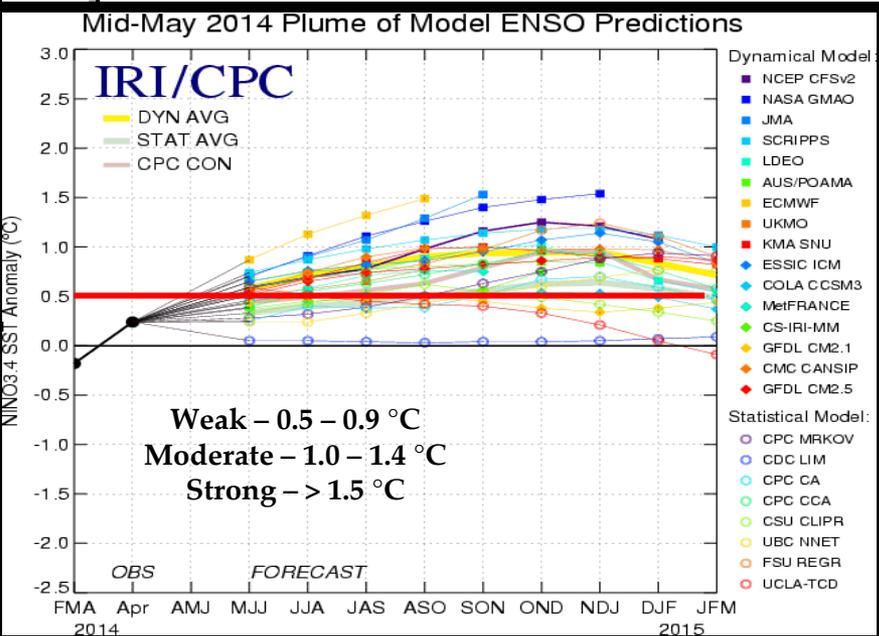
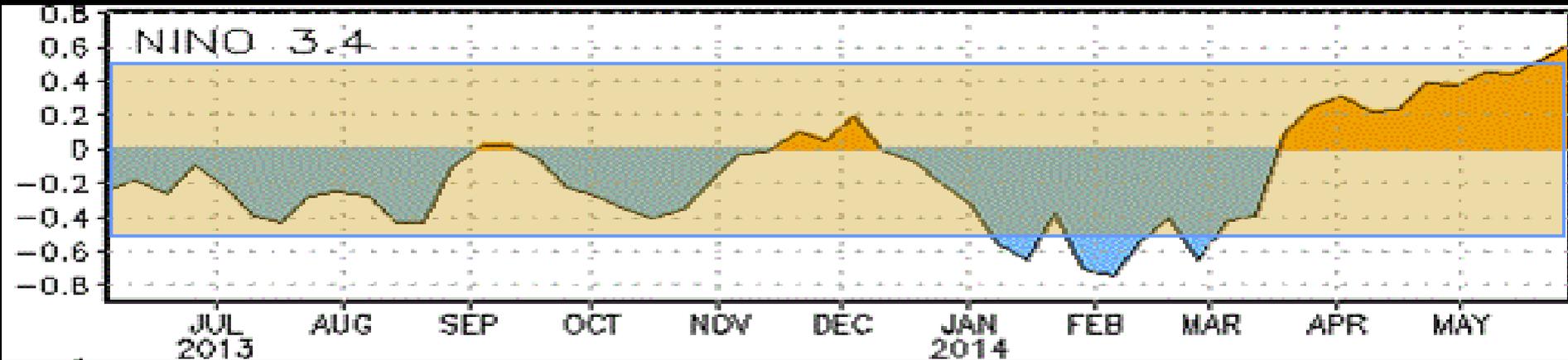
500mb Heights and Anomalies

- June 26 – July 2
- Southwest flow into Montana
 - Low pressure trough to the west, high pressure ridge to the east



El Niño / La Niña

El Niño Watch - Chances of El Niño increase during the remainder of the year

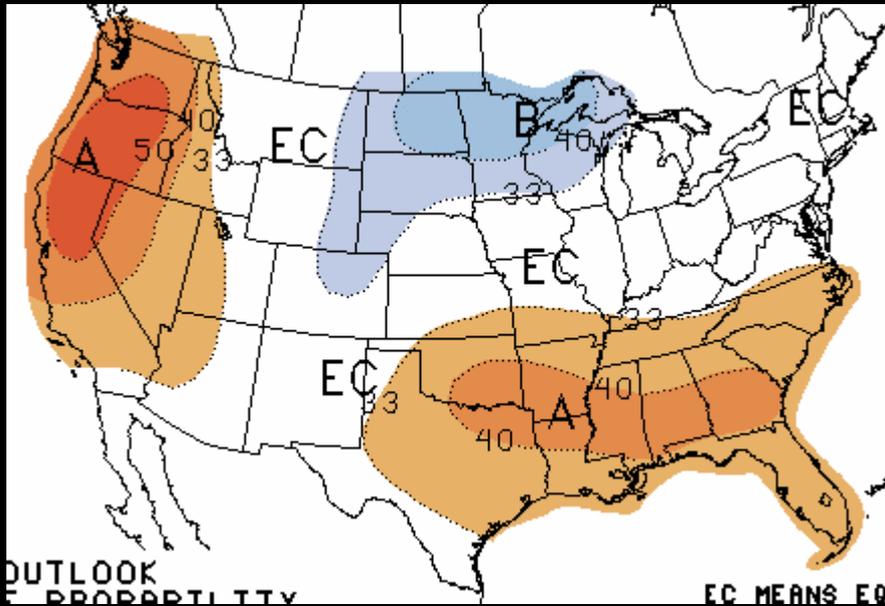


NOAA - National Weather Service

July Outlook

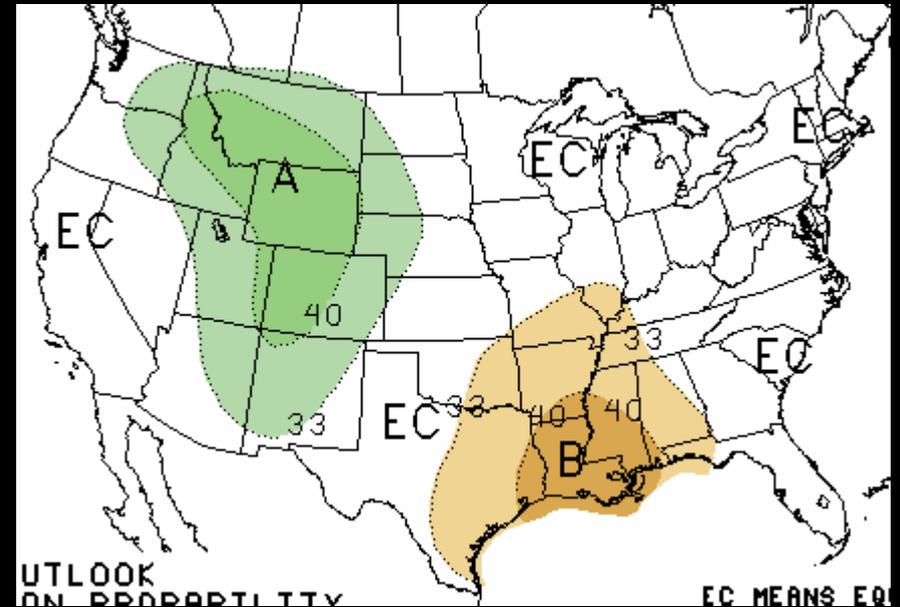
Updated June 19

Temperature



- 33% to 40% chance temperatures will be above normal extreme west, 33% to 40% chance temperatures will be below normal east

Precipitation

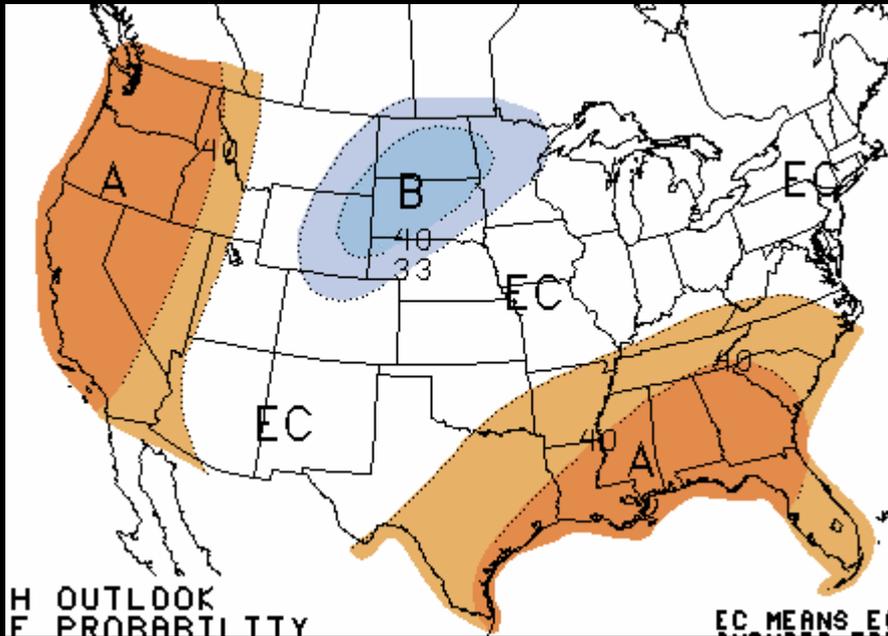


- 33% to 50% chance precipitation will be above normal across Montana

August – October Outlook

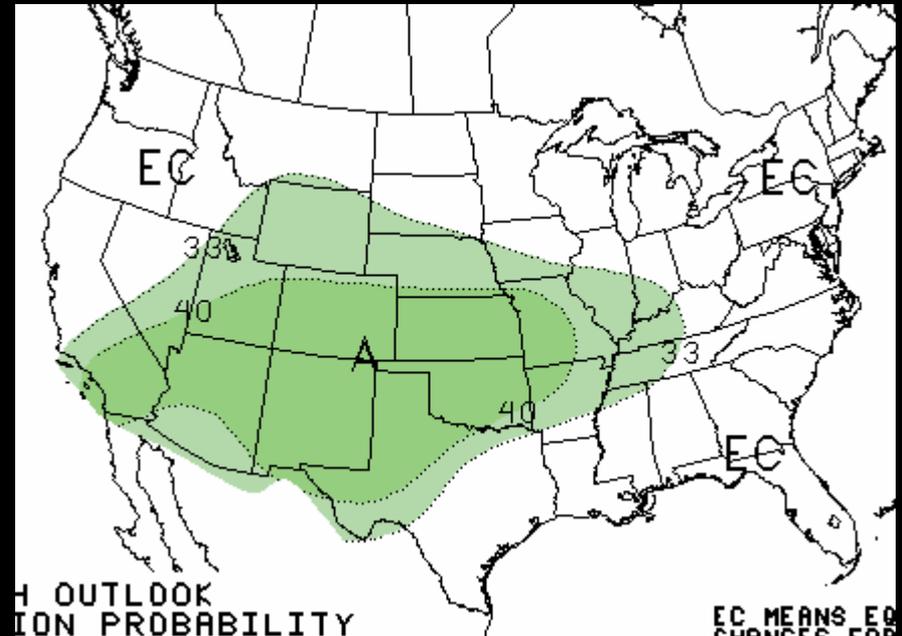
Updated June 19

Temperature



- 33% to 40% chance temperatures will be above normal west,
- 33% to 40% chance temperatures will be below normal east - southeast

Precipitation



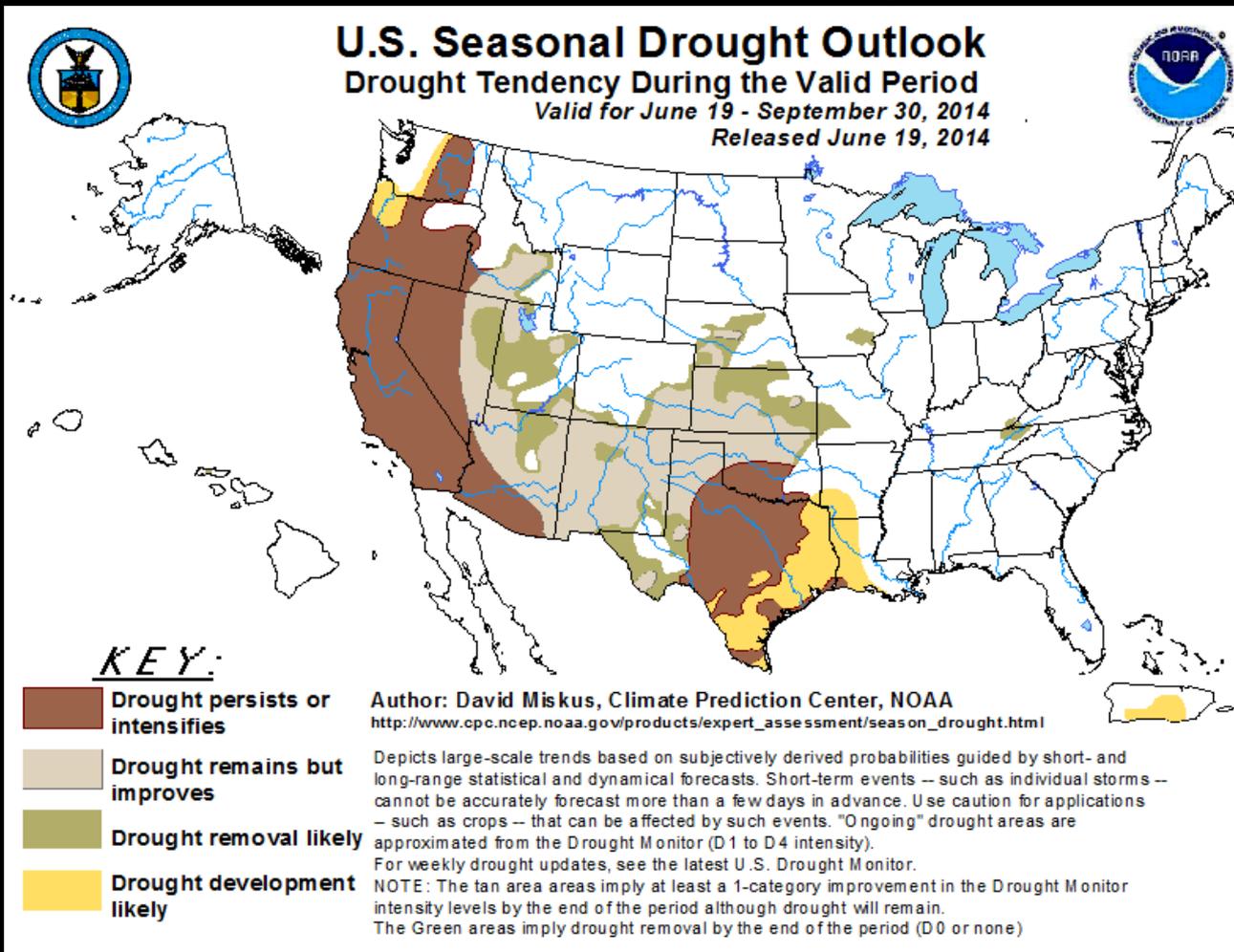
- Equal chances precipitation will be above, below or near normal across Montana



NOAA - National Weather Service

Drought Outlook through September

Issued June 19



- Drought area just to southwest of Montana expected to remain but improve some



NOAA - National Weather Service

In Summary...

- ◆ Dry conditions in April and May allowed for most snowmelt to come out with only minor flooding in a few locations
- ◆ Recent precipitation with streams still running relatively high pushed some areas back into flooding situations
- ◆ Forecast continues to show chances for precipitation through the end of June
- ◆ Climate Outlook shows better chances for above normal precipitation for July, with equal chances for above, below or near normal precipitation August through October



weather.gov

weather.gov/billings

weather.gov/glasgow

weather.gov/missoula

weather.gov/greatfalls

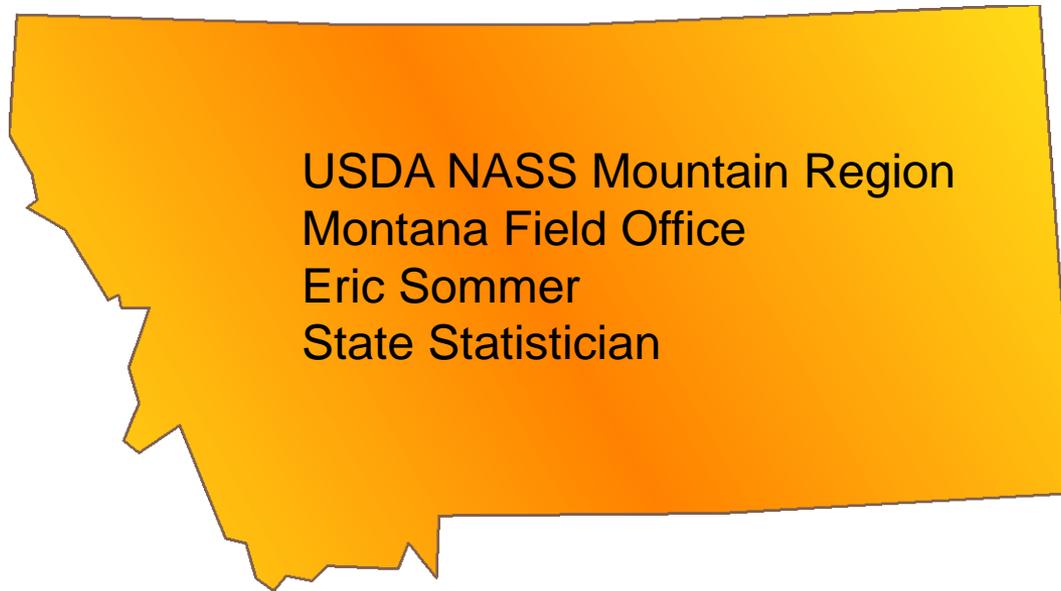


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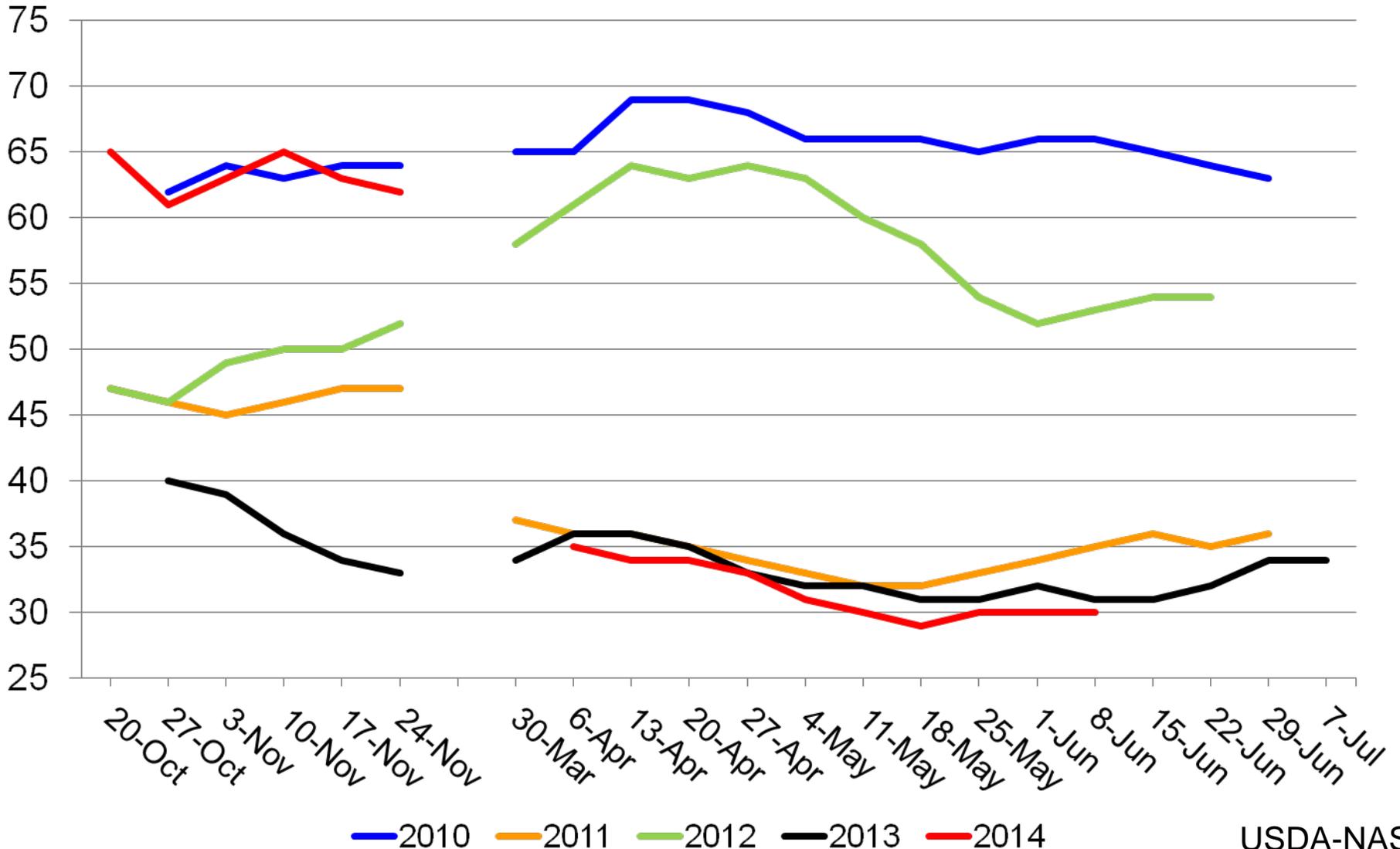
Governor's Drought & Water Supply Advisory Committee





Winter Wheat Condition

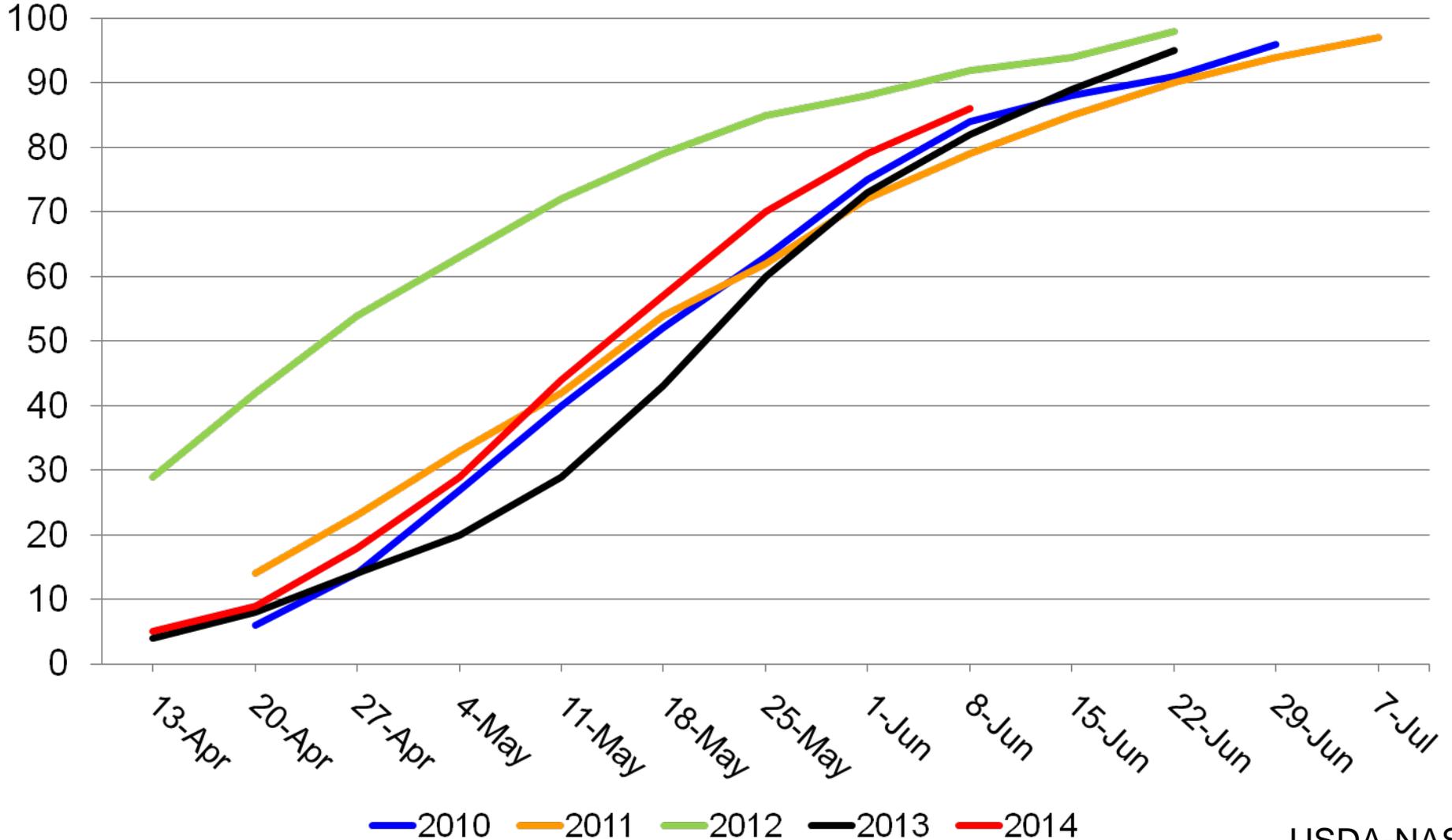
Percent Rated Good to Excellent



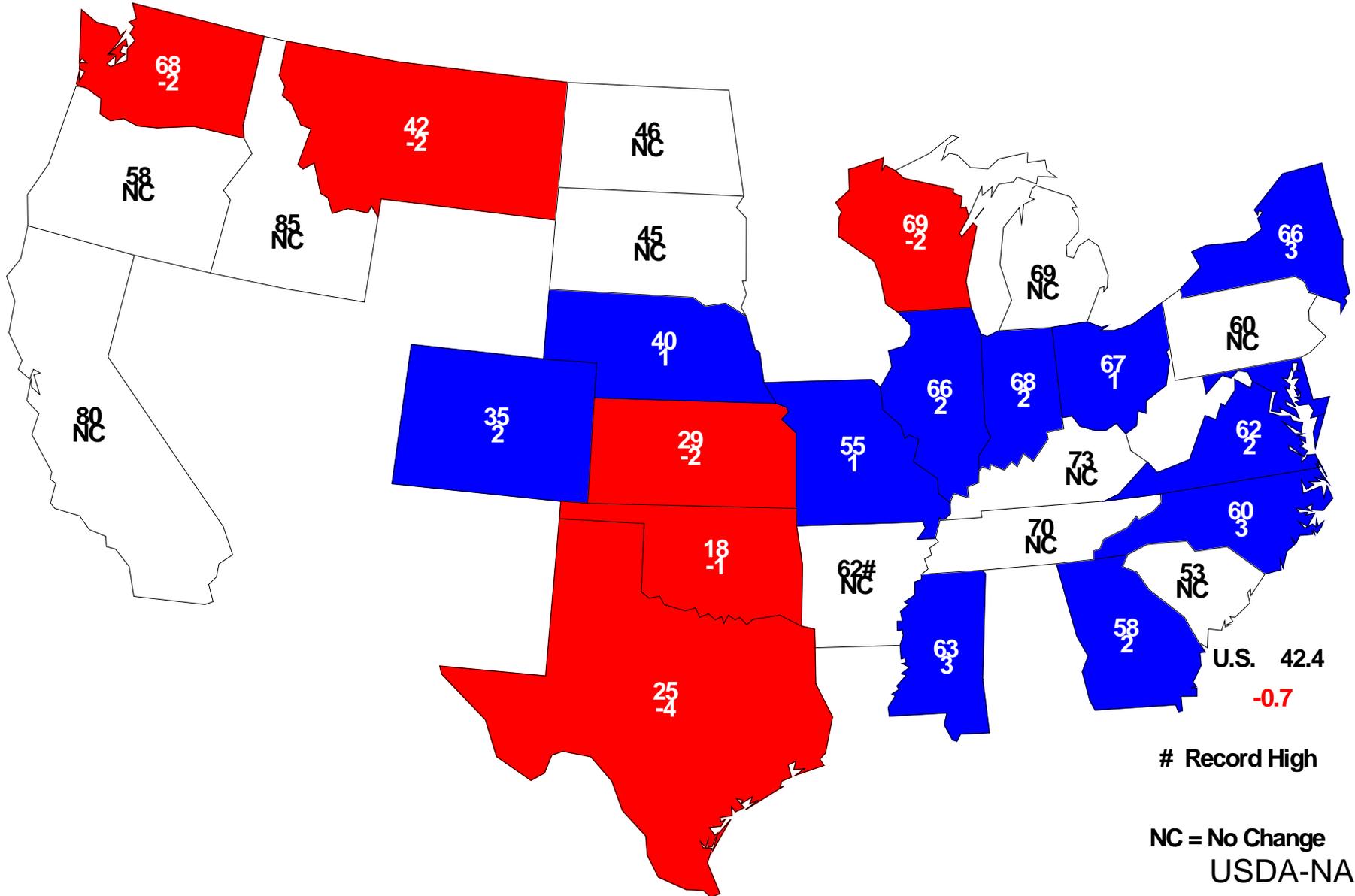


Winter Wheat Progress

Percent Headed



June 1, 2014 Winter Wheat Yield Bushels and Change From Previous Month



Record High

NC = No Change
USDA-NASS
6-11-14

Crop Weather Report

Week Ending June 15, 2014

- Topsoil and subsoil moisture conditions were worse than a year ago and the five year average.
- Producers have made a lot of progress seeding their spring crops. Late winter/Early spring storms still have producers playing catch up.

Topsoil Moisture

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Very short	5	5	4	3
Short	24	23	10	15
Adequate	59	59	73	61
Surplus	12	13	13	21

Subsoil Moisture

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Very short	5	4	5	5
Short	23	21	19	17
Adequate	66	67	67	61
Surplus	6	8	9	17

Winter Wheat Condition

Week Ending June 15, 2014

	Very poor	Poor	Fair	Good	Excellent
This week	2	7	29	51	11
Last week	2	6	30	52	10
Last year	2	7	31	39	21
5-yr avg.	2	8	29	45	16

Spring Wheat Condition

Week Ending June 15, 2014

	Very poor	Poor	Fair	Good	Excellent
This week	1	3	41	49	6
Last week	1	3	45	45	6
Last year	1	3	35	55	6
5-yr avg.	1	3	30	56	10

Barley Condition

Week Ending June 15, 2014

	Very poor	Poor	Fair	Good	Excellent
This week	0	4	48	39	9
Last week	0	4	47	40	9
Last year	0	3	31	47	19
5-yr avg.	0	4	28	53	15

Dry Peas Condition

Week Ending June 15, 2014

	Very poor	Poor	Fair	Good	Excellent
This week	1	2	36	54	7
Last week	1	2	37	52	8
Last year	1	3	26	64	6
5-yr avg.	1	2	21	64	12

Seeding Completed

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Dry Beans	85	84	98	94
Oats	92	90	96	96
Potatoes	80	76	98	97

Emerged

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Dry Beans	70	69	62	69
Potatoes	66	37	70	50
Oats	88	80	88	89
Durum Wheat	75	65	55	79
Canola	87	77	99	90

Blooming

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Dry Peas	26	23	7	11
Canola	12	1	27	11
Flaxseed	2	2	1	5
Lentils	16	15	3	6

Boot Stage

Week Ending June 15, 2014

	This week	Last week	Last year	5-yr avg.
Barley	8	3	13	17
Oats	18	2	11	14
Spring Wheat	8	4	5	11
Winter Wheat	49	38	75	68
Headed Winter Wheat	25	0	18	19

Livestock Grazing

Week Ending June 15, 2014

- 91 percent of Cattle and Calves have been moved to summer ranges, the same as last year and slightly ahead of the five-year average of 90 percent.
- 91 percent of Sheep and Lambs have been moved to summer ranges, slightly ahead of last years 89 percent and the five-year average of 87 percent.
- 78 percent of Montana's Grazing land is open, 10 percent difficult and 12 percent is still closed. This is behind last years 94 percent open, 4 percent difficult, and 2 percent closed.

Range & Pasture Feed Condition

Week Ending June 15, 2014

	Very poor	Poor	Fair	Good	Excellent
This week	4	12	30	44	10
Last week	3	12	35	40	10
Last year	3	12	35	40	10
5-yr avg.	2	9	27	43	19

Summary

Week ending June 15, 2014

- Soil Moistures were below the five year averages
- 5.3 days were suitable for field work during the week, compared to 4.1 days last year and the five year average of 4.4 days
- Planting is almost complete
- Winter Wheat has started to head
- Ranchers are wrapping up annual movement of livestock to summer ranges

June Releases

- June Hog Report released on June 27
- June Acreage, and June Stocks Reports released on June 30

USDA, NASS, Montana Field Office

Eric Sommer, State Statistician

1-800-835-2612 or 406-441-1240

Email: nass-mt@nass.usda.gov

www.nass.usda.gov/mt/

[http://www.nass.usda.gov/Statistics_by_State/Montana
Publications/Crop_Progress_&_Condition/index.asp](http://www.nass.usda.gov/Statistics_by_State/Montana_Publications/Crop_Progress_&_Condition/index.asp)

Governor's Drought & Water Supply Advisory Committee

Snow Survey and Water Supply Report
June 19th, 2014

Lucas Zukiewicz

Water Supply Specialist

USDA NRCS Montana Snow Surveys

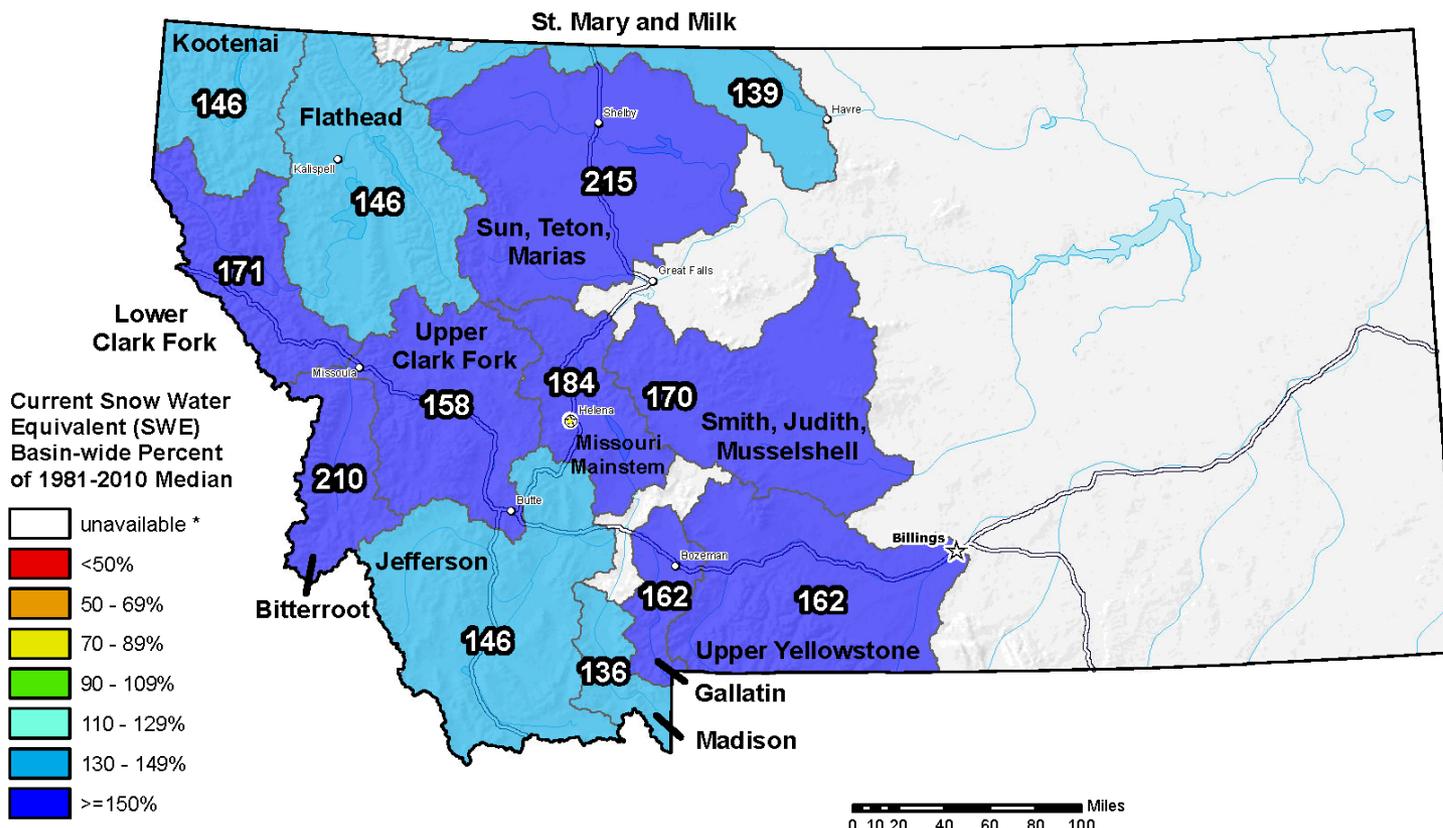
Lucas.Zukiewicz@mt.usda.gov

(406) 587-6843

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/>

Montana SNOTEL Current Snow Water Equivalent (SWE) % of Normal

May 14, 2014



* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data
Subject to Revision



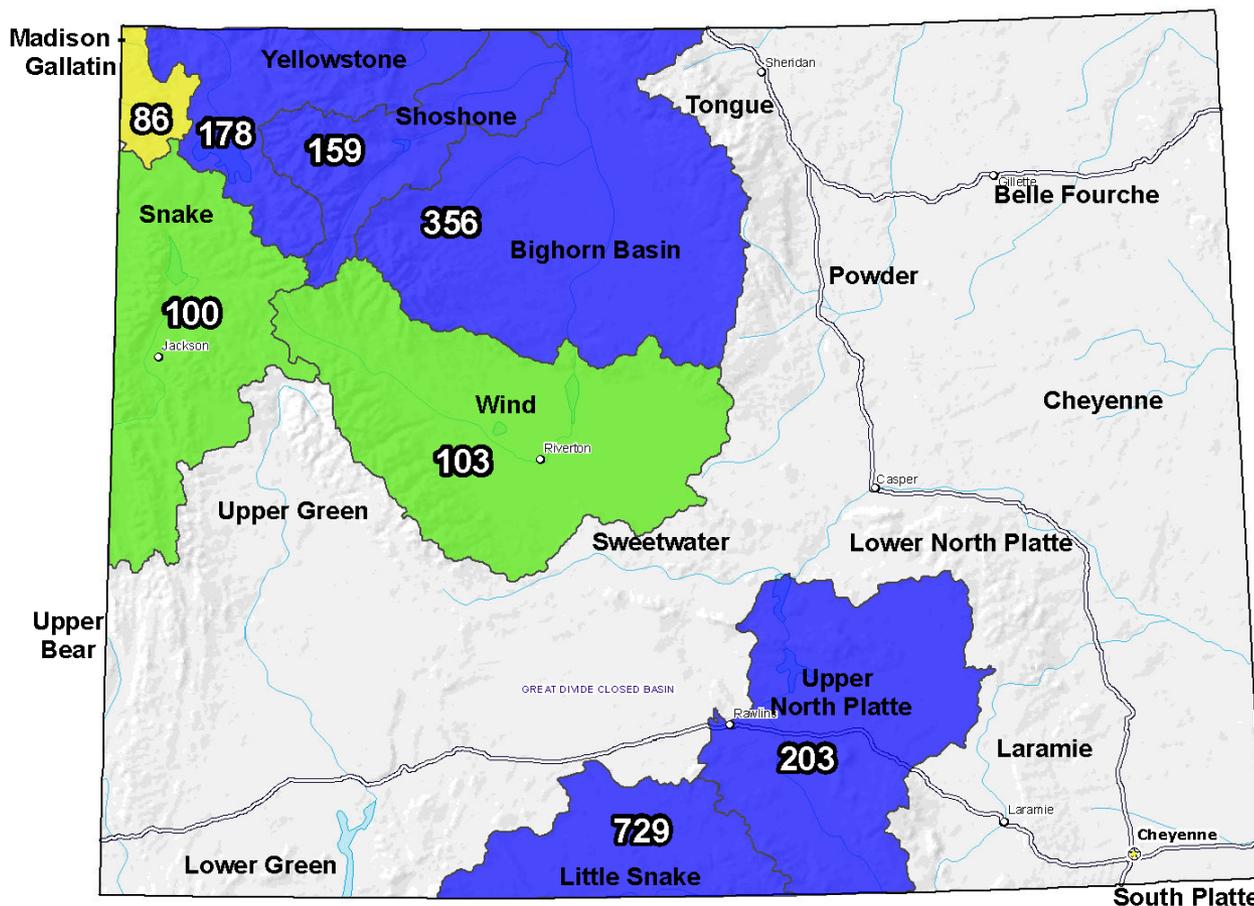
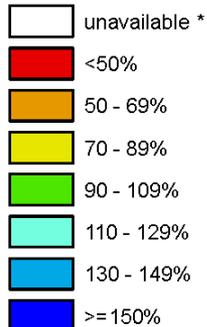
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Wyoming SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Jun 18, 2014

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



*Provisional Data
Subject to Revision*



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



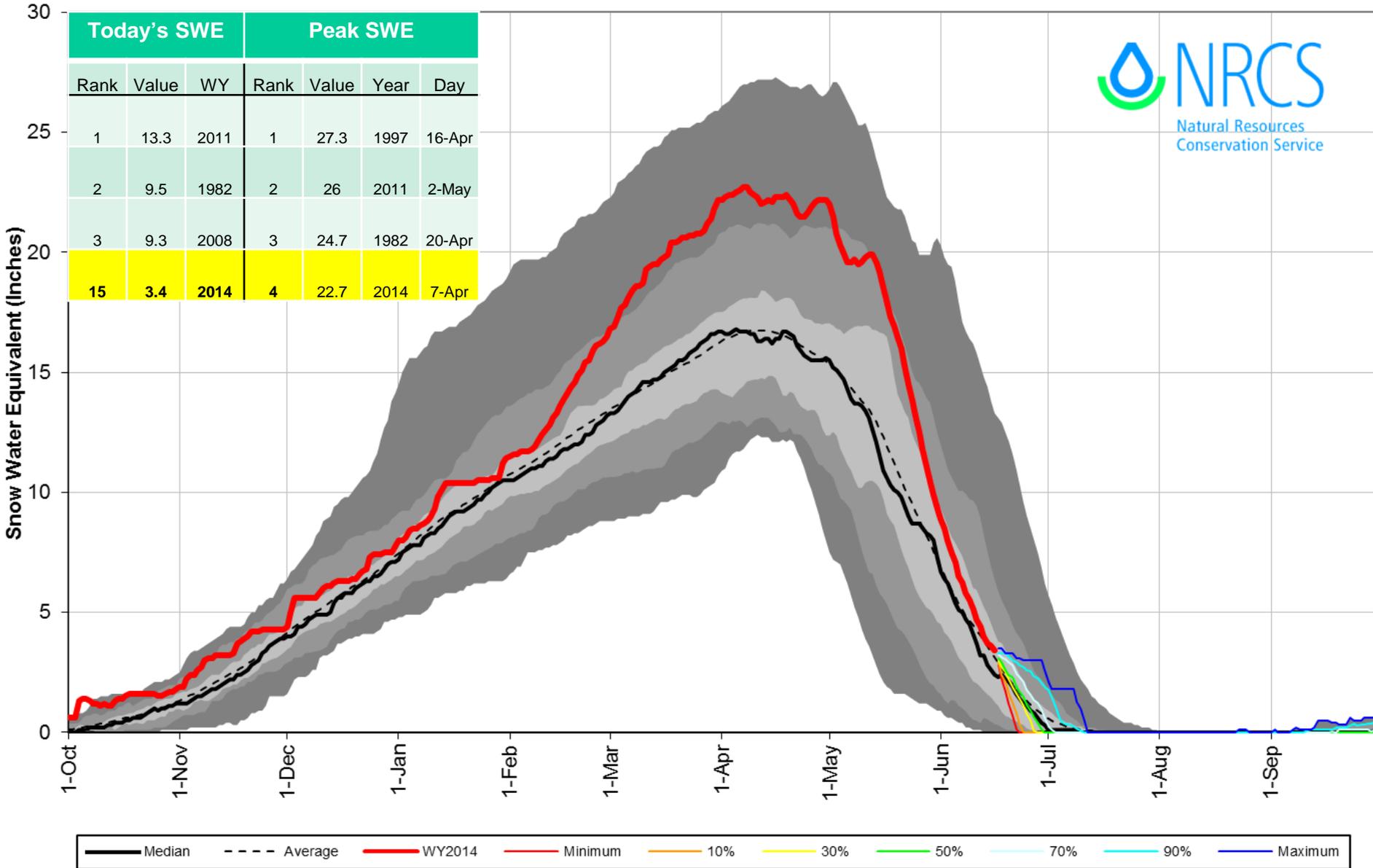
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Montana Snow Survey



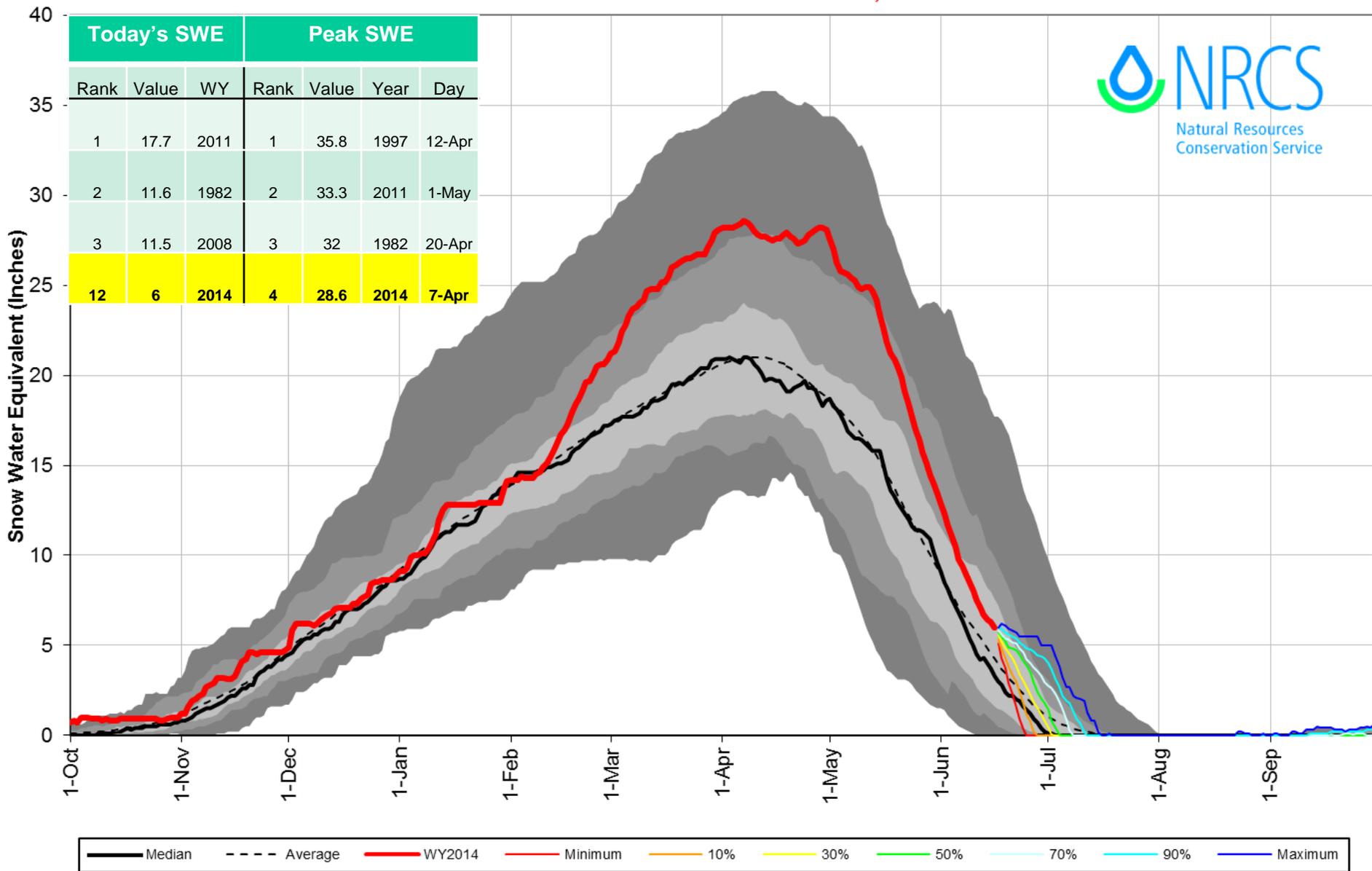
Montana Watersheds with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Jun 16, 2014



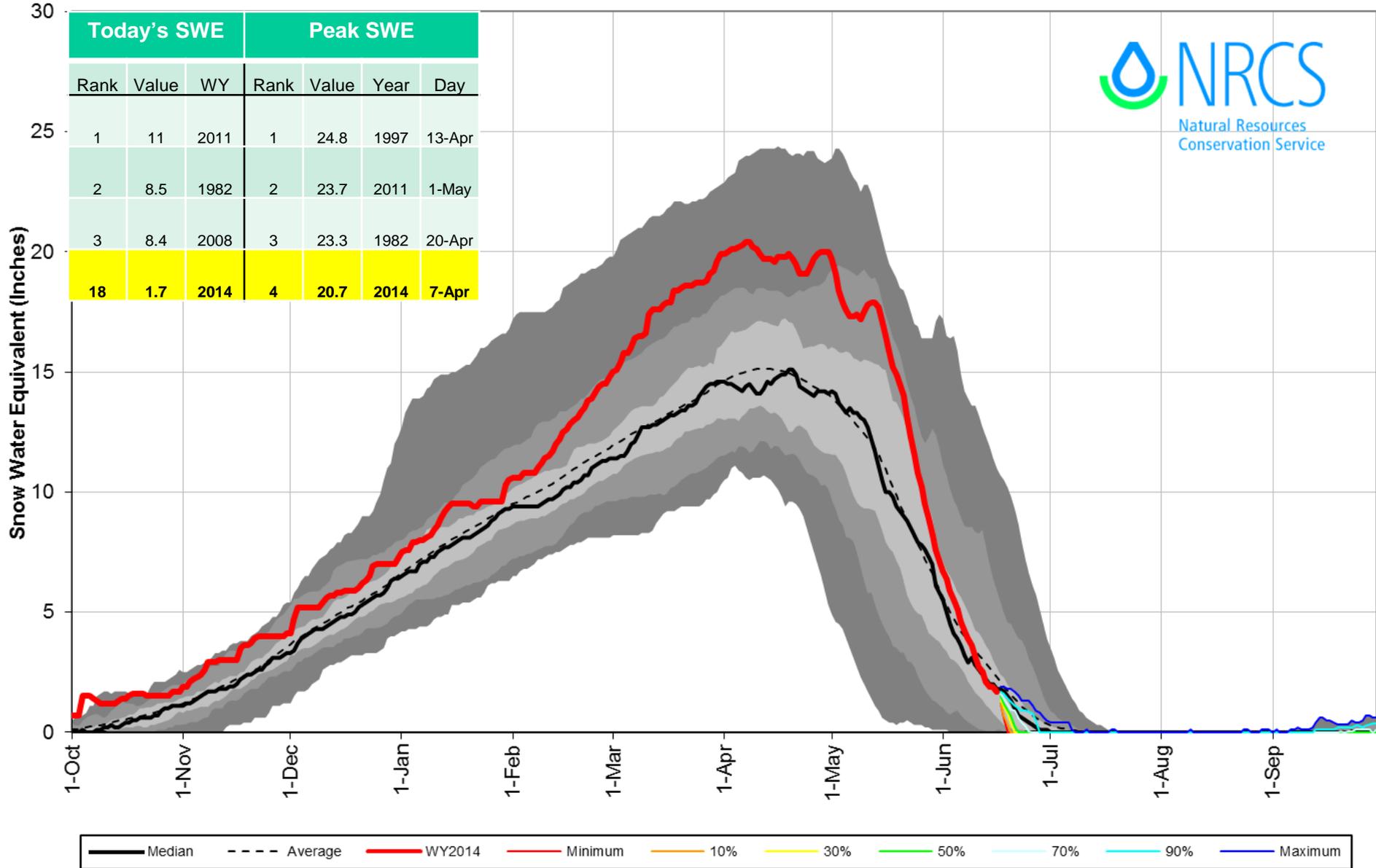
Columbia River Basin in Montana with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Jun 16, 2014



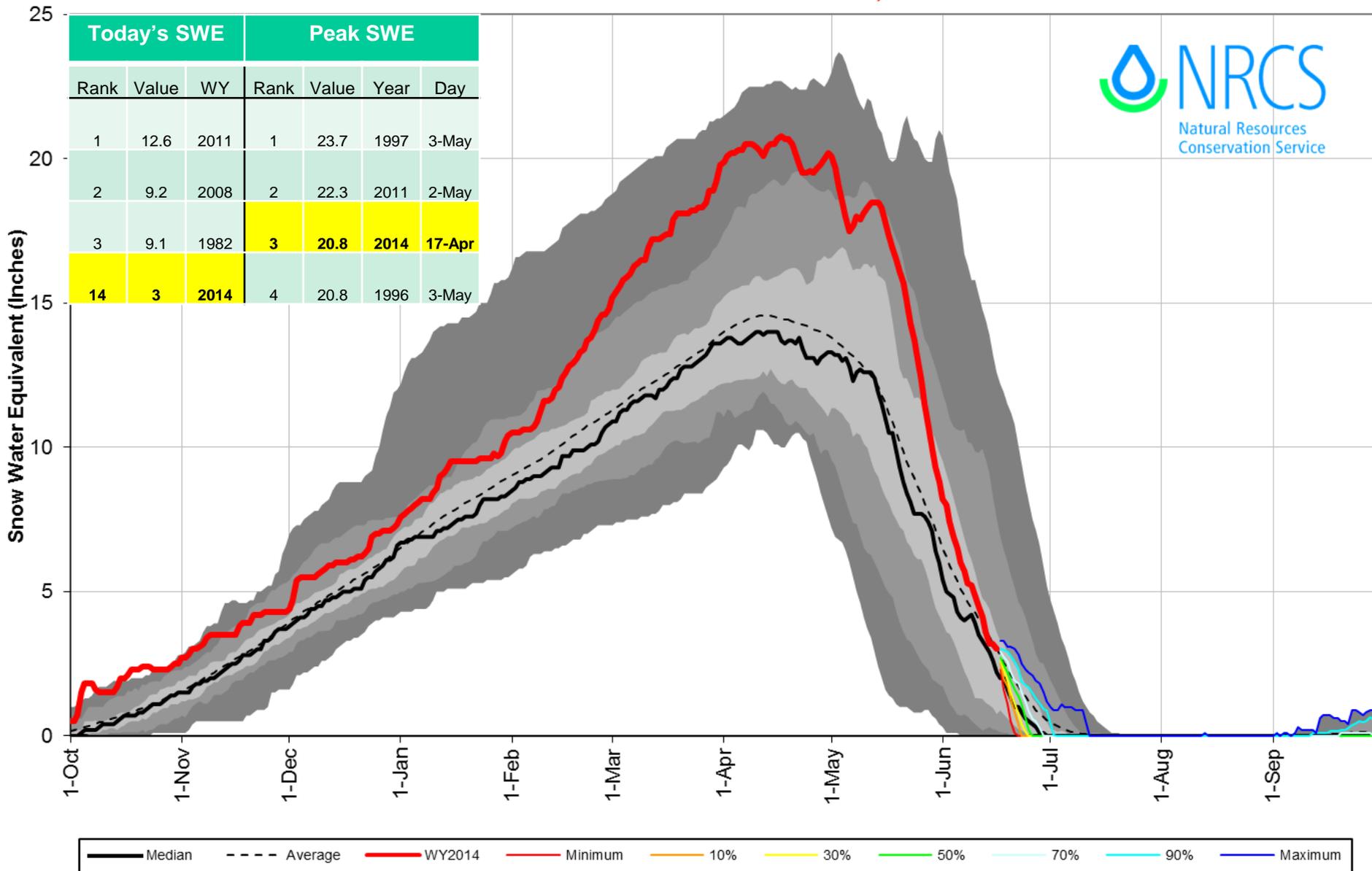
Missouri River Basin above Ft. Peck with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Jun 16, 2014



Yellowstone River Basin Snowpack with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Jun 16, 2014



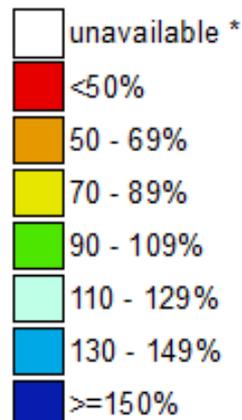
Montana Snowpack Summary

- Snowpack began rapid melt during the second to third week of May (depending on location in the state) across all elevations.
- Snowmelt entered streams and river with little contribution from precipitation events, helping to minimize flooding impacts expected from above normal snowpack on May 1st.
- 29 SNOTEL sites (of 131 total) across Montana and Wyoming have snow left on the pillows at higher elevations. The total amount of snow left to melt is ~20-55 percent of the annual peak snow water equivalent
- The remaining snowpack at higher elevations will help to sustain flows into the summer. Cooler weather, with some additional snow in some locations this week, will help to retain this snowpack and prolong snowmelt driven flows.

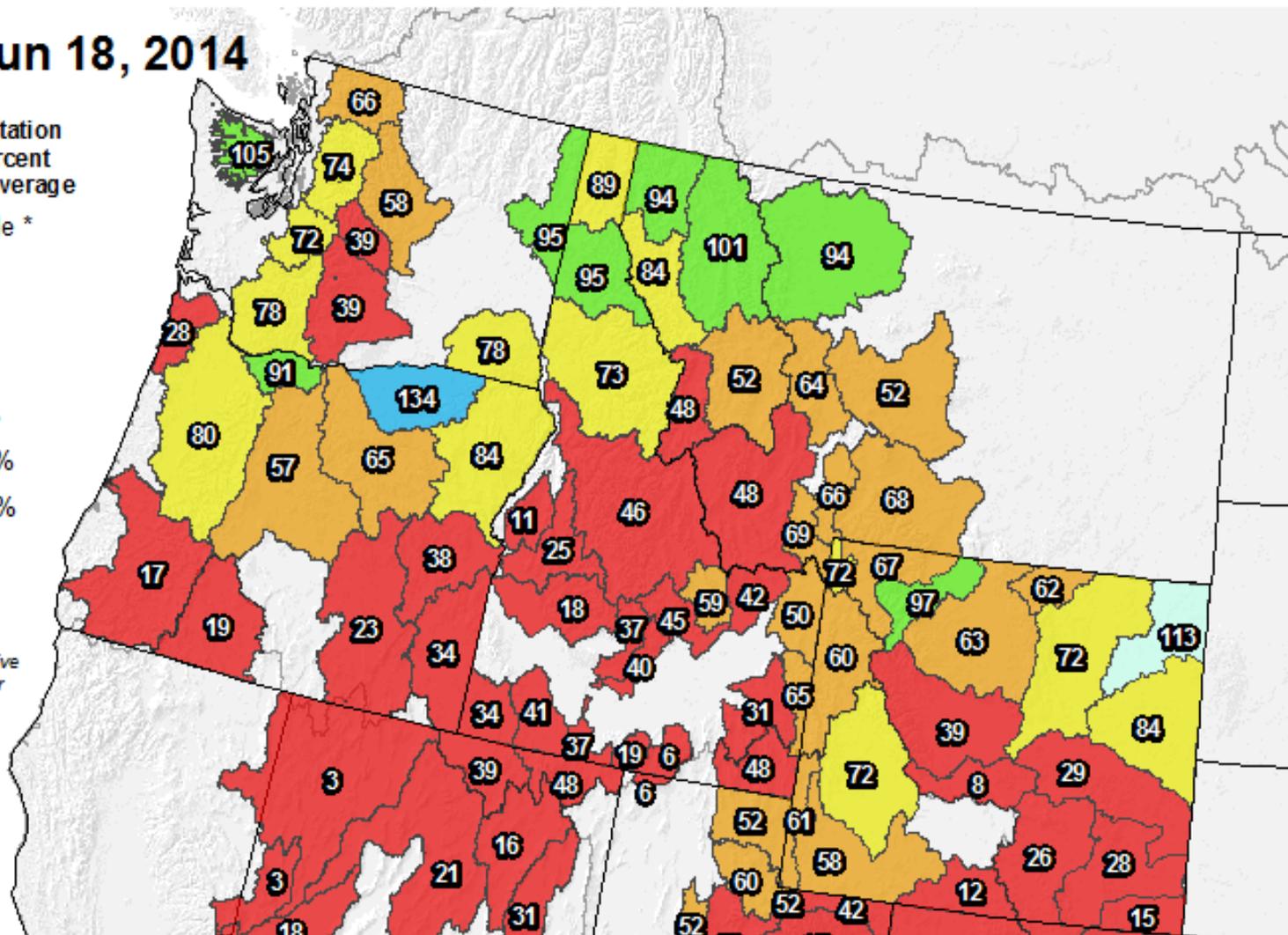
Westwide SNOTEL Current Month to Date Precipitation % of Normal

Jun 18, 2014

Current Month
to Date Precipitation
Basin-wide Percent
of 1981-2010 Average

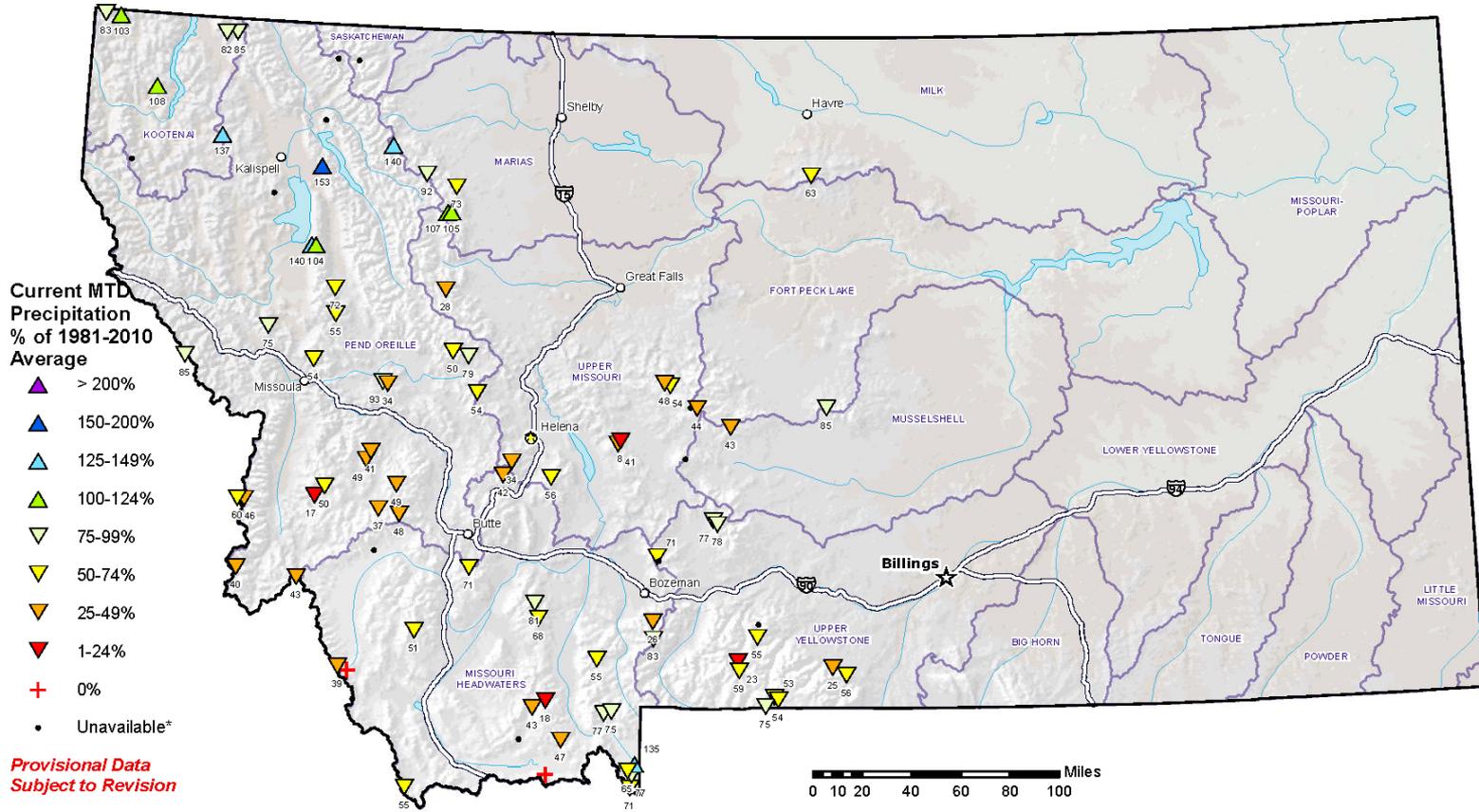


* Data unavailable
at time of posting
or measurement
is not representative
at this time of year



Montana SNOTEL Month to Date (MTD) Precipitation % of Normal

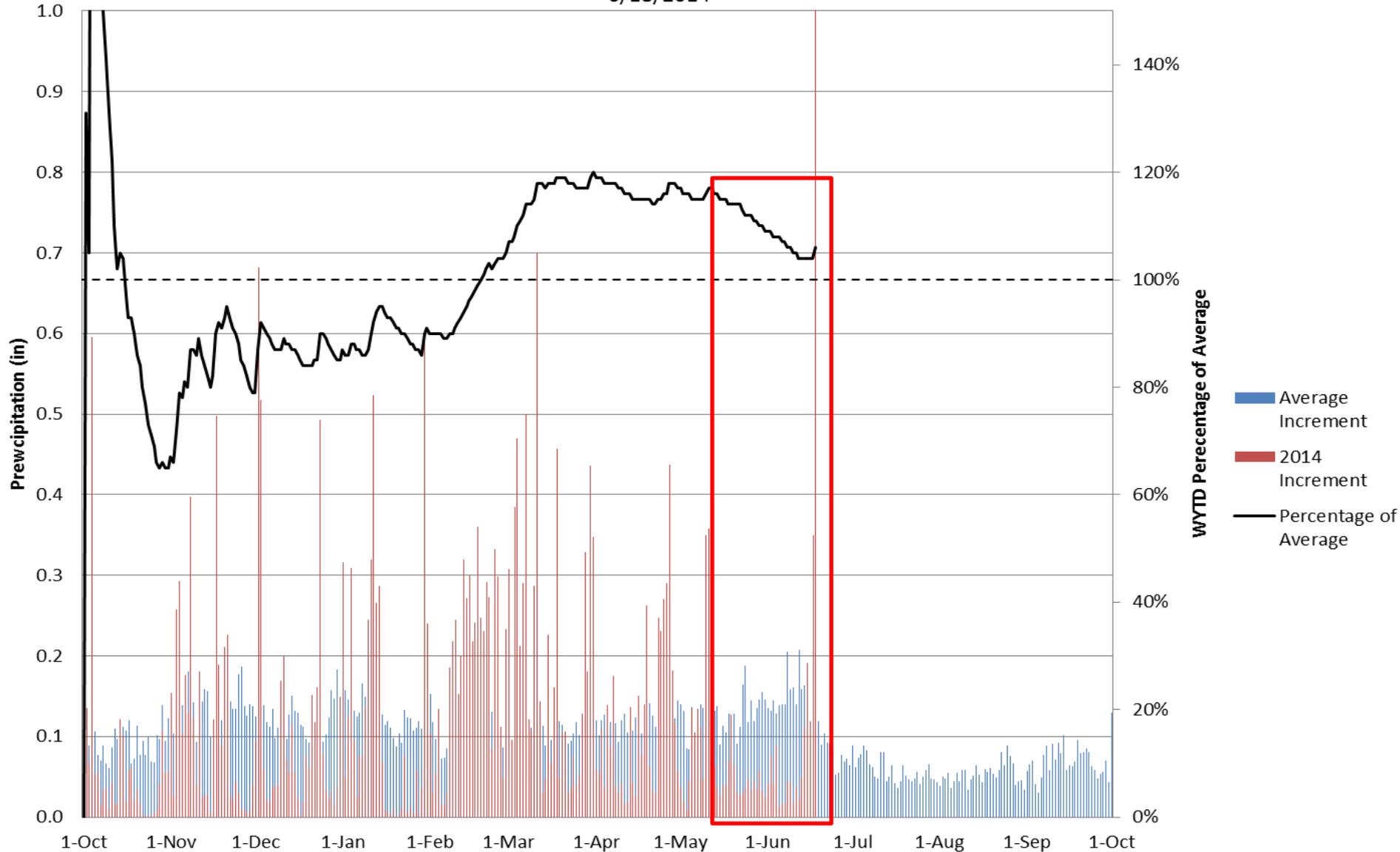
Jun 18, 2014



Montana Snow Survey



Montana State SNOTEL Incremental Daily Precipitation 6/18/2014

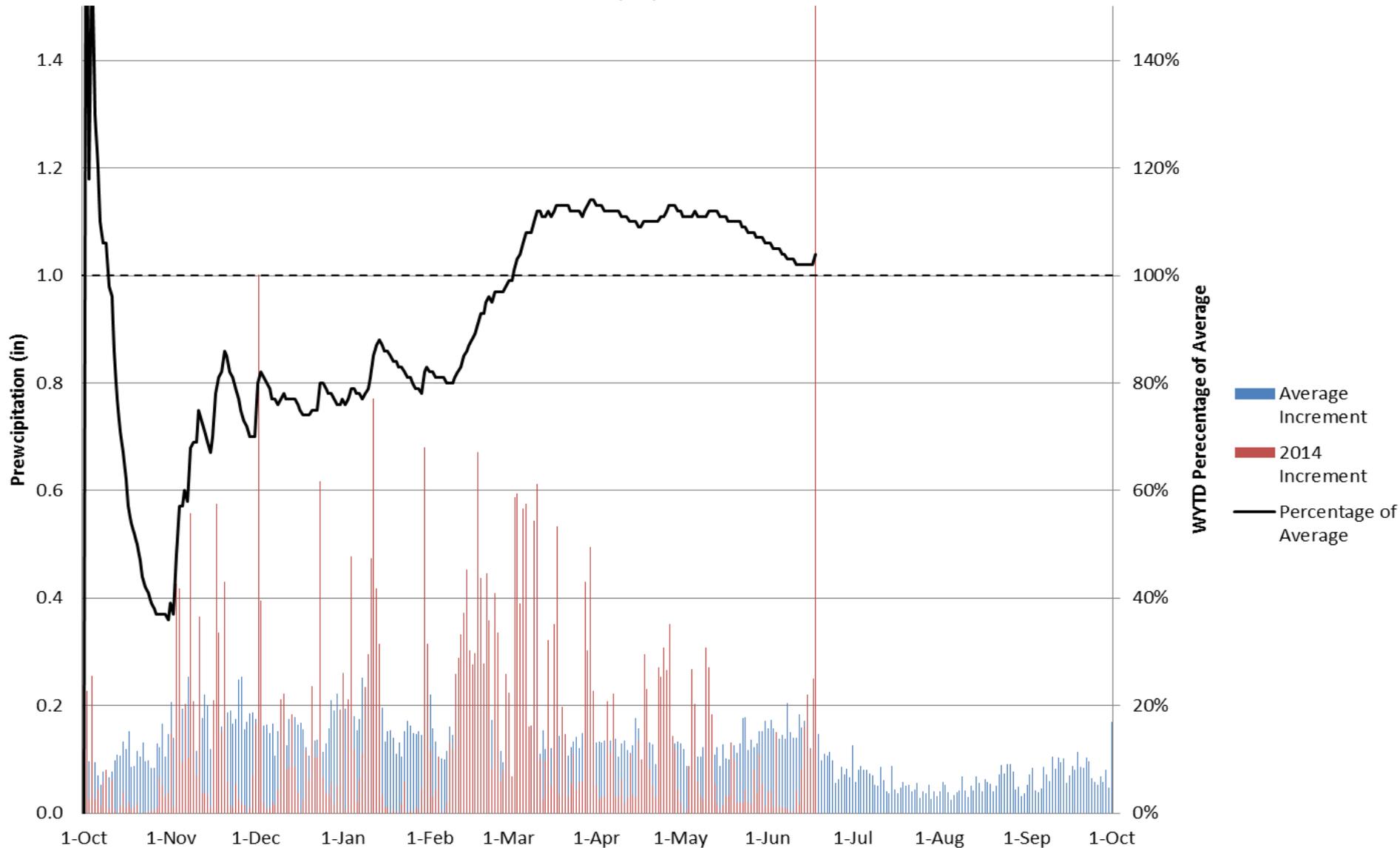


Columbia In Montana

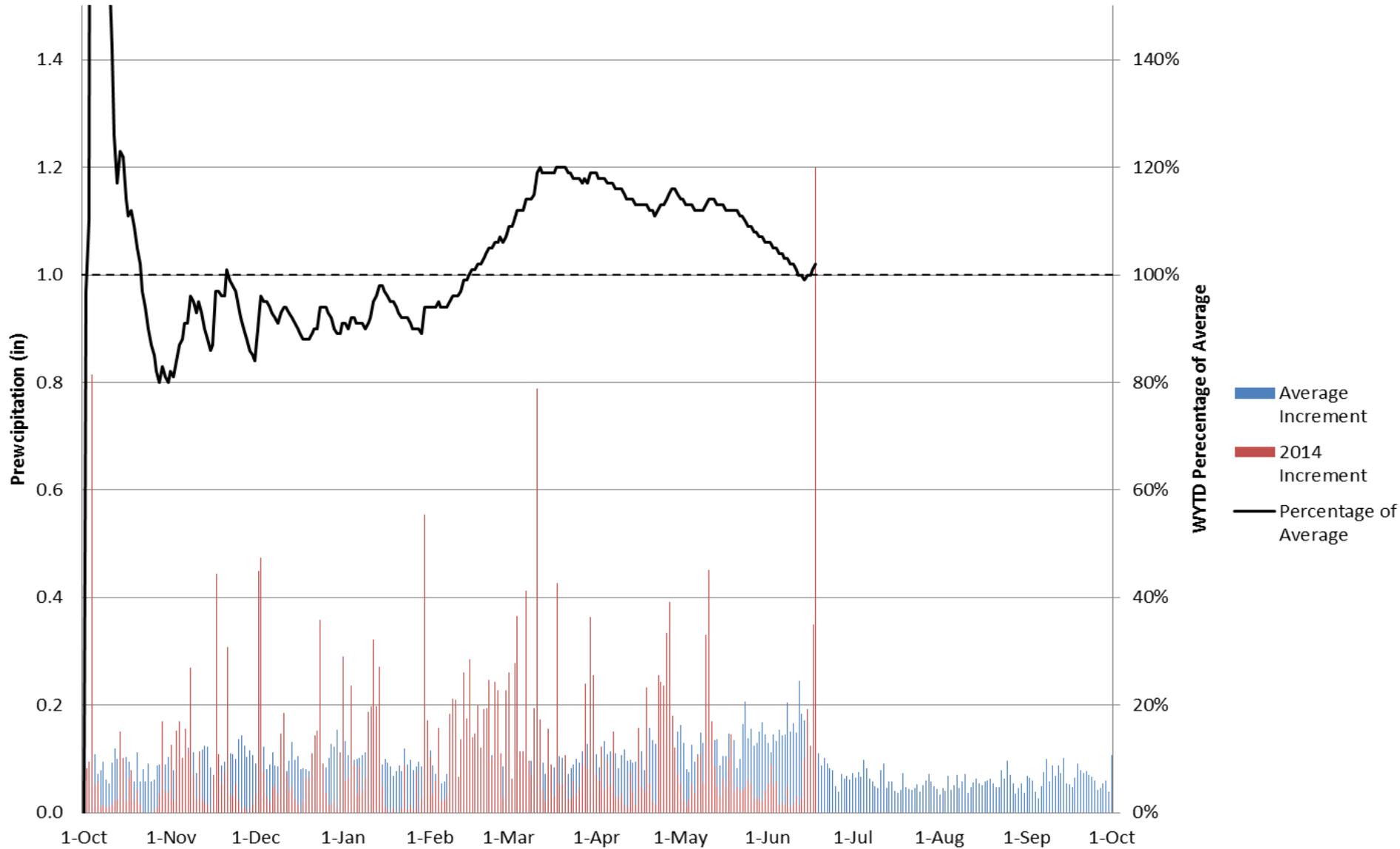
SNOTEL Incremental Daily Precipitation

6/18/2014

United States Department of Agriculture
Natural Resources Conservation Service



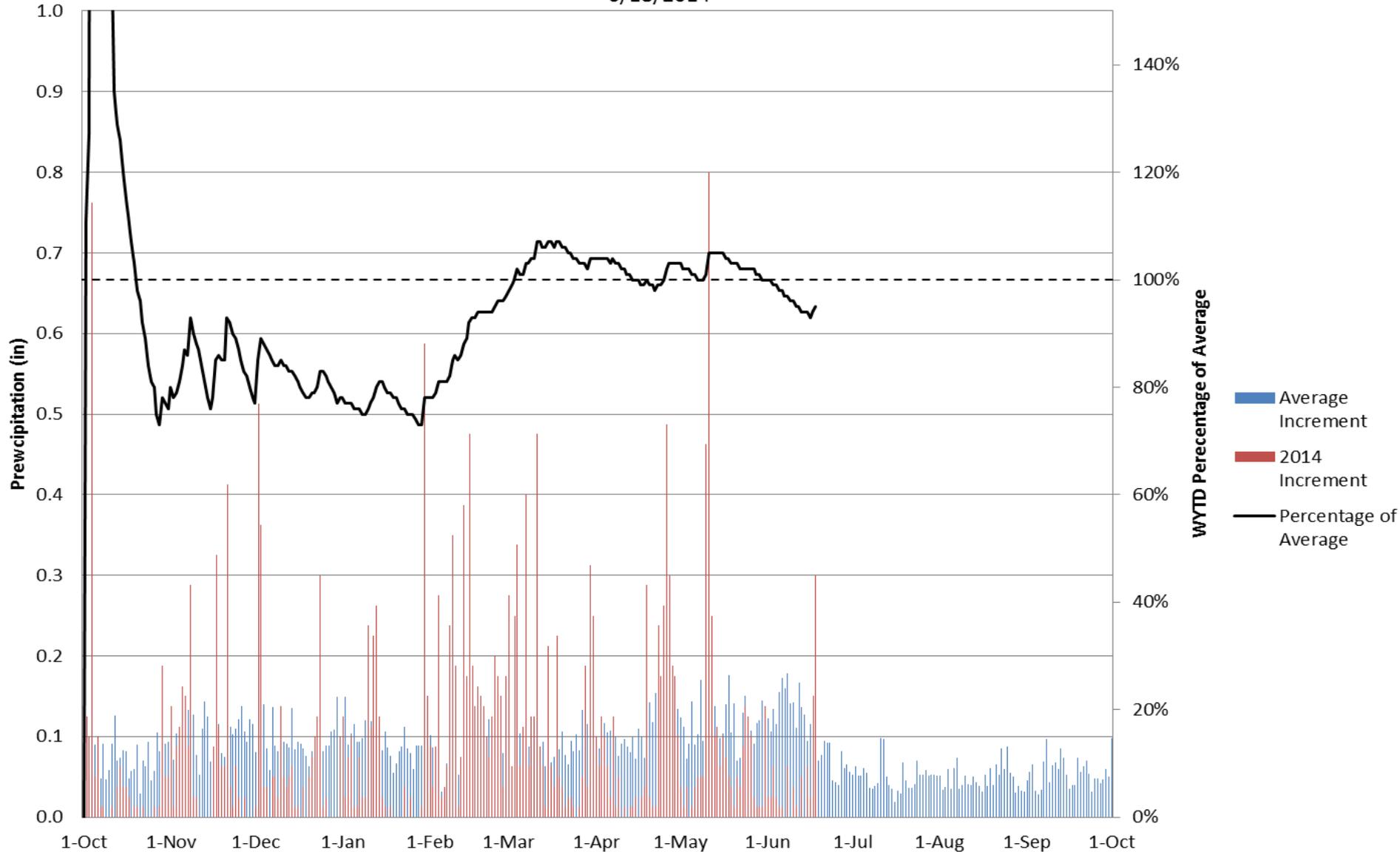
Missouri River Basin SNOTEL Incremental Daily Precipitation 6/18/2014



Montana Snow Survey



Beaverhead SNOTEL Incremental Daily Precipitation 6/18/2014

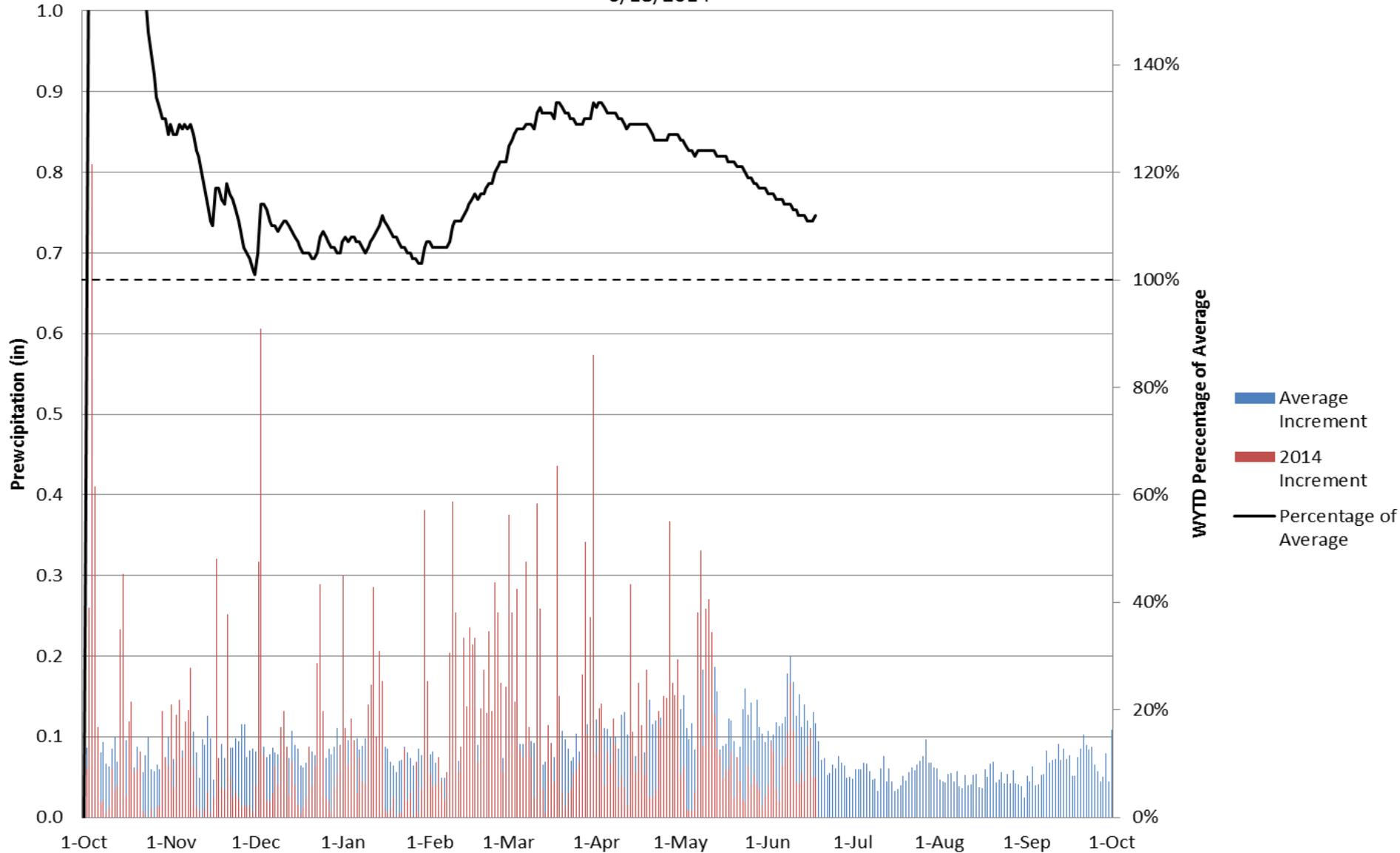


Montana Snow Survey



Yellowstone River Basin SNOTEL Incremental Daily Precipitation

6/18/2014



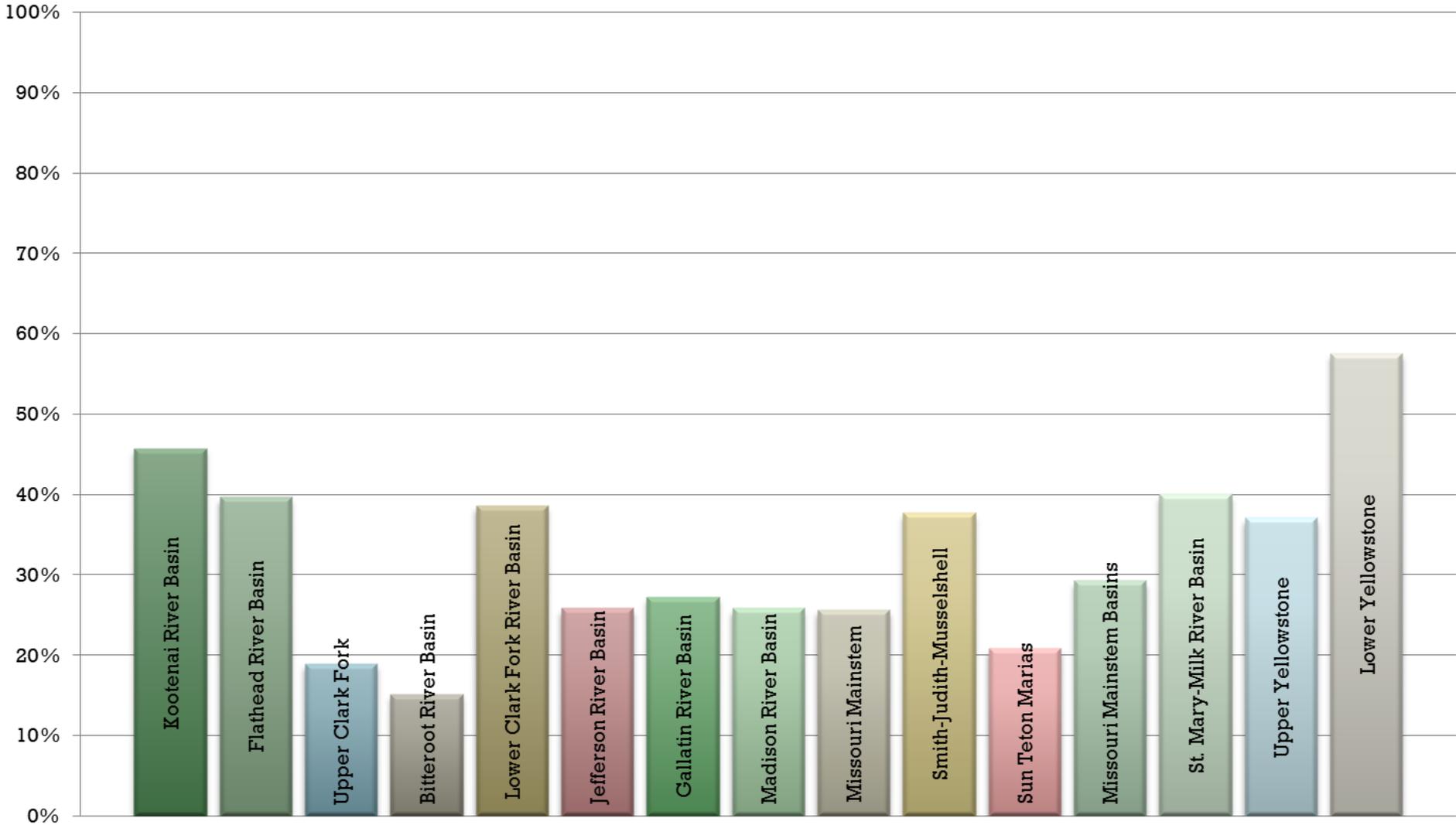
Montana Snow Survey



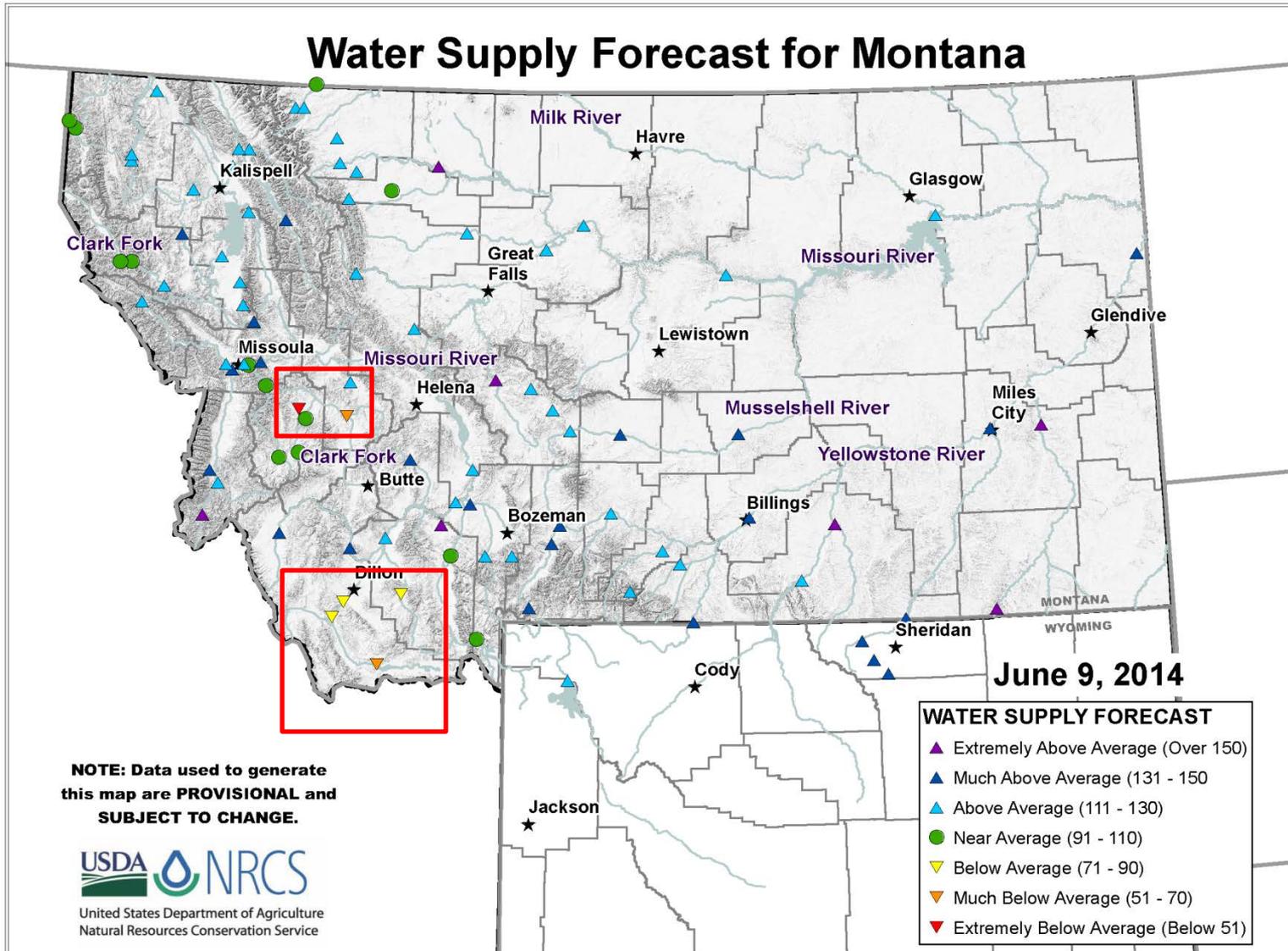
Percentage of Average Precipitation

Data from SNOTEL sites only

5/20/2014 to 6/15/2014



Water Supply Forecast for Montana



Volumetric Streamflow Forecasts

Based on May 1st, 2014 Data

Basin	Jun-Jul 50% Forecast (KAF)	Average (KAF)	Last Year Obs Strmflow (KAF)	% of Avg	% of Last Year Strmflw
Columbia River Basin	37731	30468	28295.4	124%	133%
East Of Divide	38914	29583	21206.3	132%	183%
Missouri Headwaters Basins	2717.6	2210.3	996.5	123%	271%
Missouri Mainstem Basins	17836	13681	10817.3	130%	165%
Missouri River Basin	20553	15891	11813.9	129%	174%
Yellowstone River Basin	18361	13692	9392.5	134%	195%
St. Mary	624	592.3	599.8	105%	104%
STATE OF MONTANA	77269	60617	50069.6	127%	154%

***Above numbers are the averages of all forecasts points in the particular basins

- Forecasts projected to be “below” average
 - Lower Willow Creek Reservoir Inflow – 44% average
 - Little Blackfoot near Garrison – 69% average
 - Ruby River Reservoir Inflow - 85% average
 - Beaverhead River at Barrets - 82% average
 - Clark Canyon Inflow - 77% average
 - Lima Reservoir Inflow - 68% average
- Majority forecasts for individual river systems are predicted to be between 115 to 140% of average for Jun-July. Statewide average is 127%

Snowmelt Driven Peak Streamflows

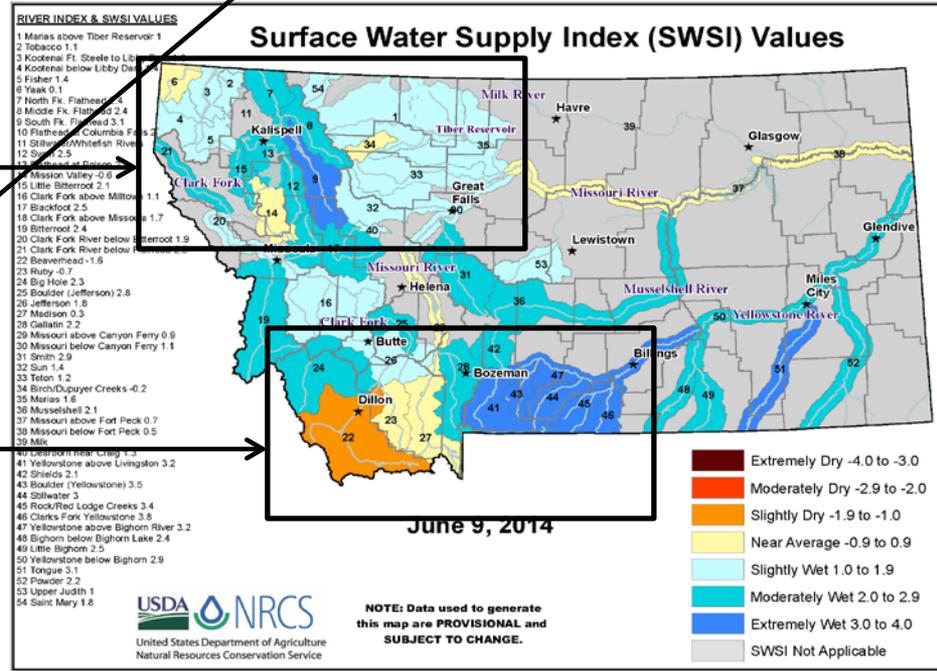
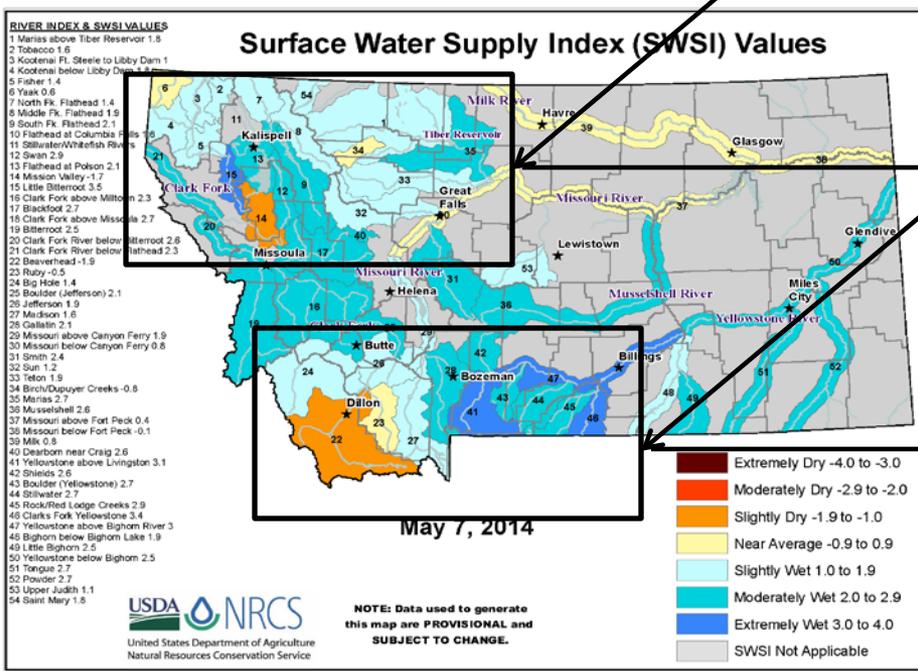
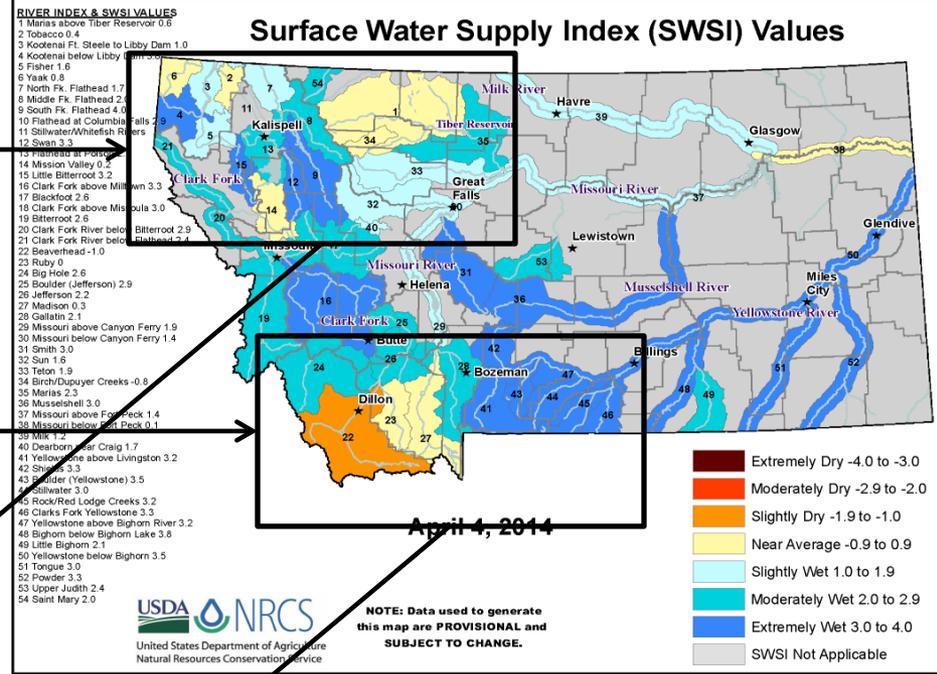
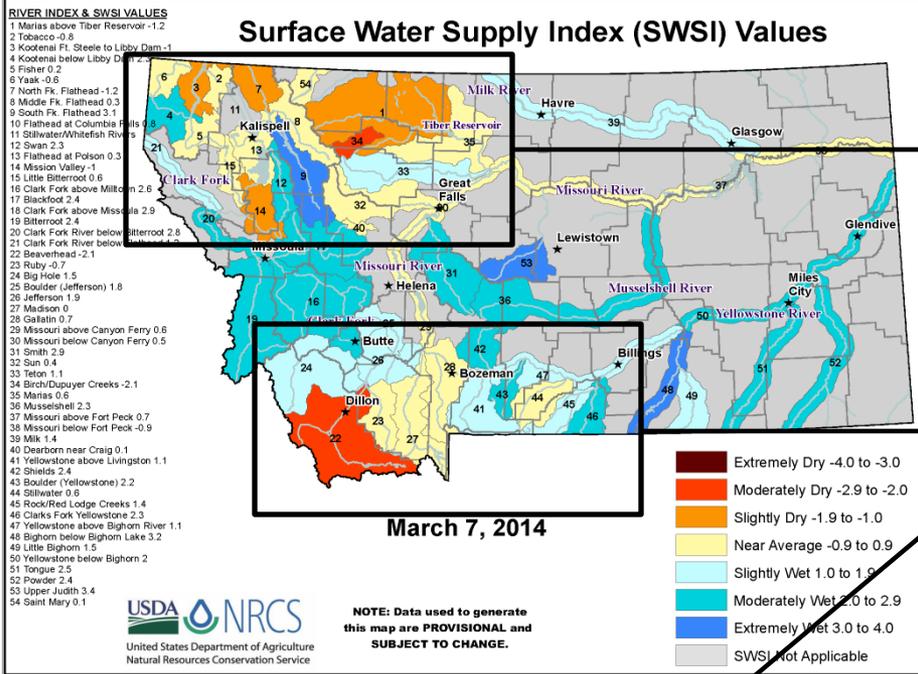
Columbia River Basin						
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow	Date Difference	Volume Difference
Bitterroot River near Darby	24-May	8510	22-May	5111	 2	167%
Bitterroot River near Missoula	26-May	16800	24-May	12784	 2	131%
Blackfoot River near Bonner	27-May	10600	21-May	7221	 6	147%
Clark Fork River above Missoula	27-May	17100	25-May	12542	 2	136%
Clark Fork River at St. Regis	26-May	41000	25-May	32173	 1	127%
Clark Fork River below Missoula	26-May	33400	25-May	25462	 1	131%
Clark Fork River near Drummond	26-May	2210	25-May	2172	 1	102%
Como Reservoir Inflow	24-May	1088	22-May	1121	 2	97%
Fisher River near Libby	4-May	4170	15-May	2003	 -11	208%
Little Blackfoot River near Garrison	5-May	1010	14-May	886	 -9	114%
Lower Willow Creek Reservoir Inflow	***	***	13-May	186		
Middle Fork Flathead River near West Glacier	24-May	22200	20-May	17697	 4	125%
Middle Fork Rock Creek near Phillipsburg	29-May	1040	24-May	756	 5	138%
Mill Creek near Niarada	3-May	103	5-May	50	 -2	206%
Nevada Creek near Helmville	24-May	291	19-May	217	 5	134%
North Fork Flathead River near Columbia Falls	25-May	22000	22-May	18010	 3	122%
Prospect Creek at Thompson Falls	24-May	1180	15-May	1139	 9	104%
South Fork Flathead abv Twin Falls	24-May	19000	21-May	16039	 3	118%
South Fork Jocko near Arless	24-May	483	17-May	387	 7	125%
Swan River near Big Fork	28-May	5500	24-May	4479	 4	123%
Thompson River near Thompson Falls	18-May	2220	16-May	1856	 2	120%
Tobacco River near Eureka	24-May	1310	20-May	1216	 4	108%
Yaak River near Troy	18-May	4890	15-May	5222	 3	94%
Average	21-May	9823	19-May	7972	3	131%

Snowmelt Driven Peak Streamflows

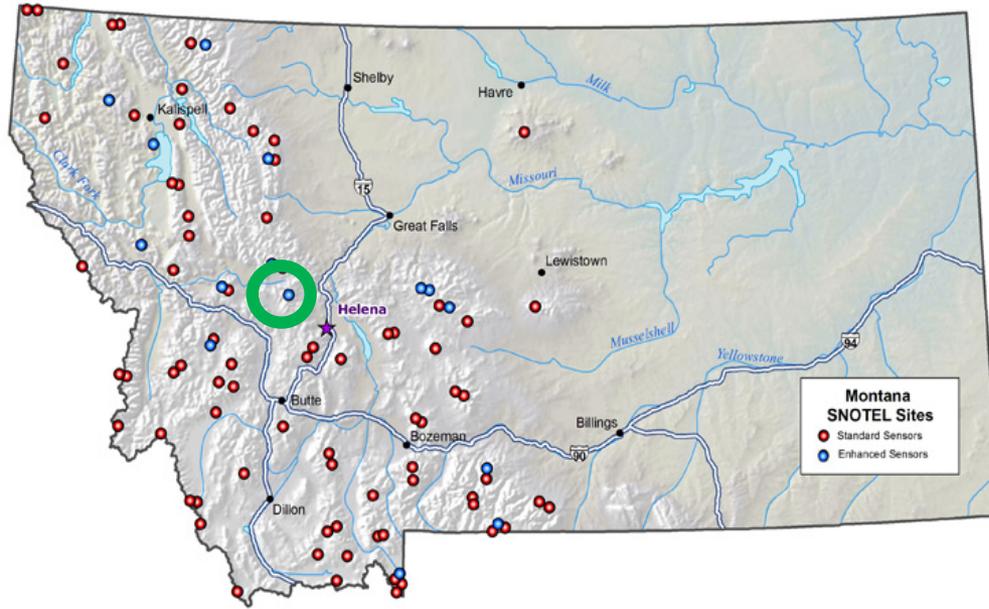
Missouri River Basin						
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow	Date Difference	Volume Difference
Badger Creek near Browning	24-May	1260	22-May	1040	2	121%
Big Hole River below Big Lake Creek at Wisdom	28-May	1600	1-Jun	1256	-4	127%
Big Hole River near Melrose	29-May	8330	29-May	5988	0	139%
Boulder River near Boulder	25-May	1430	22-May	898	3	159%
Clark Canyon Reservoir Inflow	28-May	438	5-Jun	850	-8	52%
Cut Bank Creek near Browning	25-May	1030	20-May	892	5	115%
Dearborn River near Craig	25-May	1230	18-May	1085	7	113%
Gallatin River near Gateway	29-May	6030	2-Jun	4803	-4	126%
Gallatin River at Logan	29-May	6320	1-Jun	4896	-3	129%
Gibson Reservoir Inflow	24-May	5785	24-May	5662	0	102%
Hyalite Reservoir Inflow	***	***	2-Jun	240		
Jefferson River near Three Forks	30-May	9330	30-May	7639	0	122%
Lima Reservoir Inflow	***	***	16-May	645		
Madison near West Yellowstone	26-May	1410	21-May	1397	5	101%
Marias River near Shelby	25-May	4990	23-May	3655	2	137%
Missouri River at Toston	30-May	21600	2-Jun	16219	-3	133%
Musselshell River at Harlowton	27-May	1520	24-May	715	3	213%
S. F. Musselshell near Martinsdale	***	***	21-May	734		
North Fork Musselshell River near Delpine	***	***	25-May	39		
Ruby Reservoir Inflow	28-May	804	27-May	951	1	85%
Sheep Creek near White Sulphur Springs	***	***	24-May	158		
Smith River below Eagle Creek nr Fort Logan	26-May	1380	24-May	786	2	176%
Musselshell River near Martinsdale	26-May	1350	21-May	734	5	184%
Swift Reservoir Inflow	24-May	719	23-May	541	1	133%
Two Medicine River near Browning	24-May	3140	22-May	2005	2	157%
Willow Creek Reservoir Inflow	1-Jun	134	1-Jun	174	0	77%
Average	26-May	3801	25-May	2462	1	129%

Snowmelt Driven Peak Streamflows

Yellowstone River Basin						
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow	Date Difference	Volume Difference
Boulder River near Big Timber	29-May	5840	4-Jun	4180	-6	140%
Big Goose Creek near Sheridan WY	***	***	26-May	594		
Clarks Fork River near Belfry	29-May	10600	4-Jun	7178	-6	148%
Cooney Reservoir Inflow	7-May	495	31-May	363	24	136%
Little Bighorn River near Hardin	1-Jun	2350	28-May	1166	4	202%
Little Goose Creek near Big Horn Wyoming	***	***	25-May	316		
West Rosebud near Roscoe	***	***	9-Jun	818		
Powder River at Moorehead	30-May	2980	22-May	1921	8	155%
Shields River near Livingston	26-May	2980	27-May	1482	-1	201%
Stillwater River near Absarokee	29-May	6690	5-Jun	5160	-7	130%
Tongue River Reservoir Inflow	31-May	4830	26-May	2339	5	206%
Tongue River near Dayton Wyoming	29-May	2300	24-May	1102	5	209%
Yellowstone River at Billings	30-May	56600	7-Jun	36293	-8	156%
Yellowstone River at Corwin Springs	29-May	22600	2-Jun	17110	-4	132%
Yellowstone River at Lake outlet	***	***	25-Jun	5134		
Yellowstone River at Livingston	29-May	28400	4-Jun	19494	-6	146%
Average	27-May	12222	30-May	8149	-3	163%

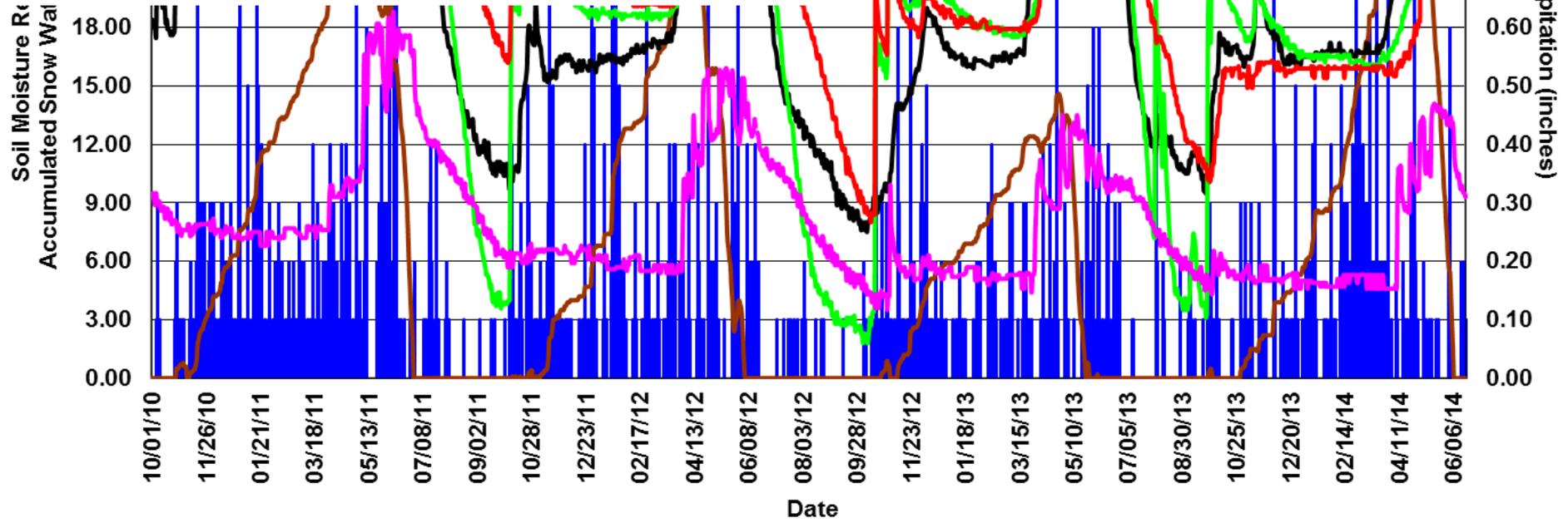


Montana Snow Survey

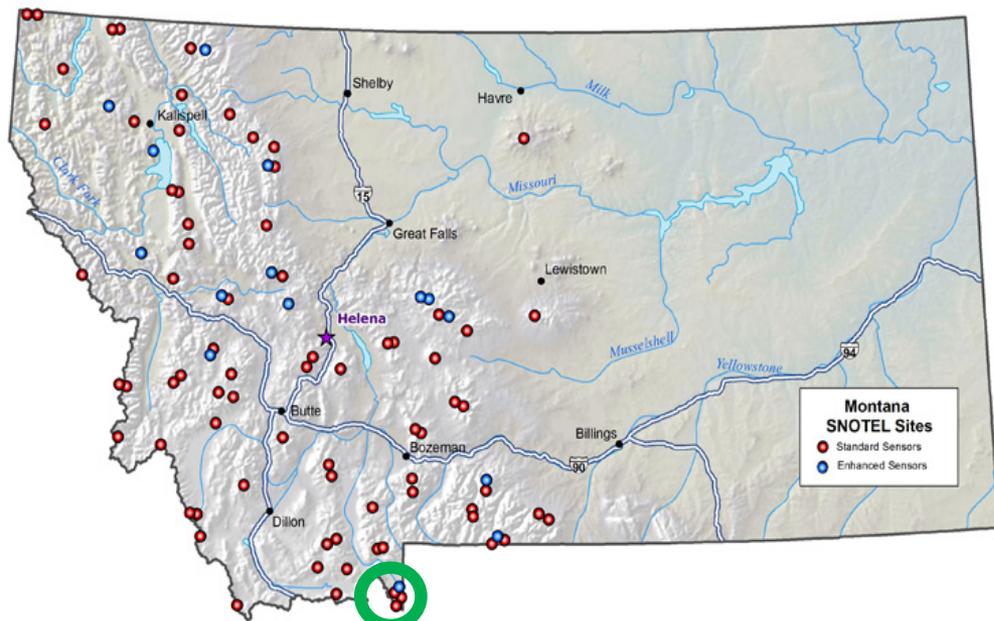


Water Year 2011-14
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— Avg 8" SMR — Avg 20" SMR — Avg 40" SMR

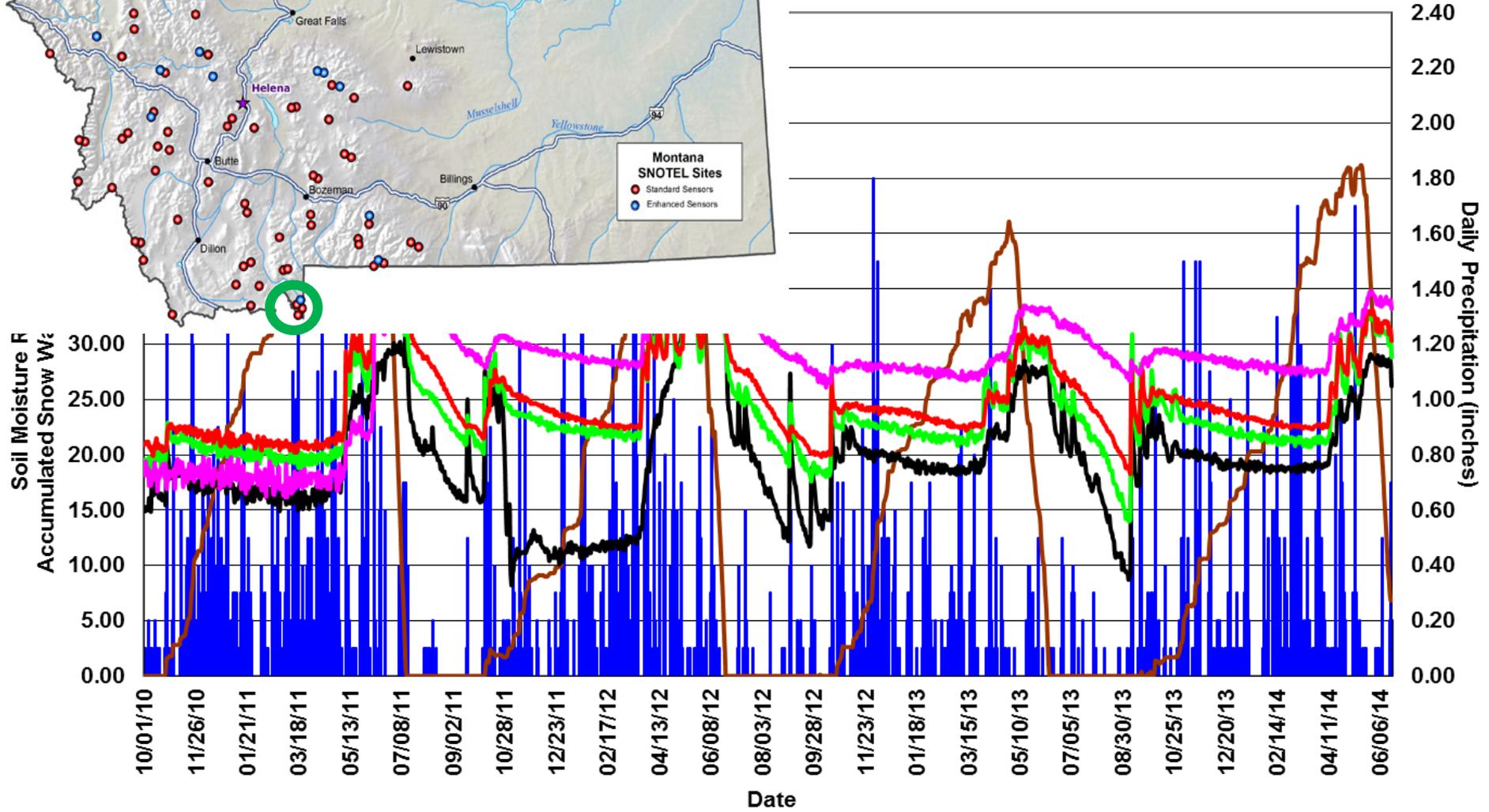


Montana Snow Survey

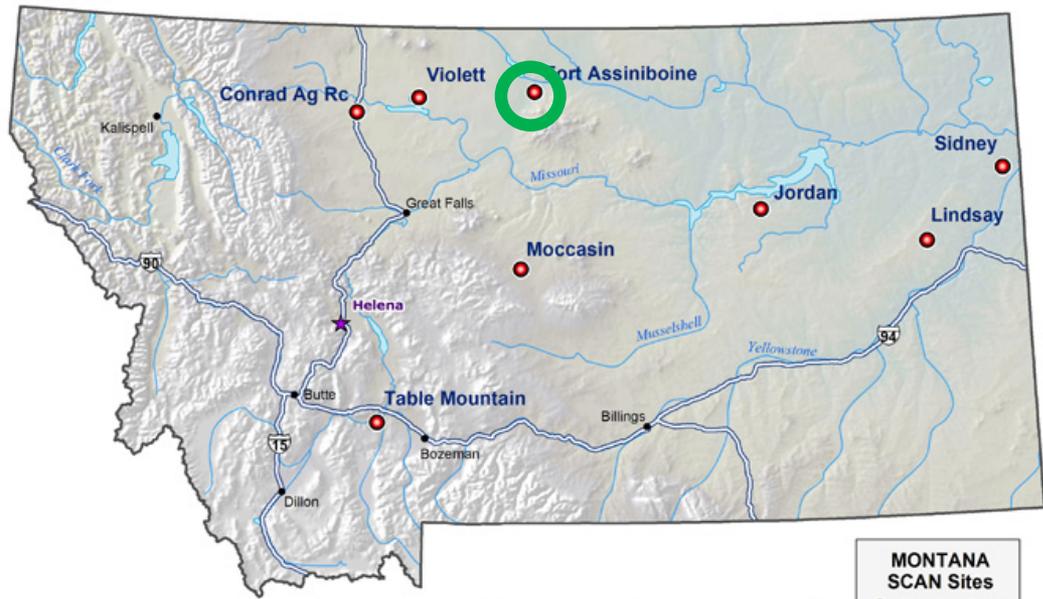


Vater Year 2011-14
Response Data

Avg 8" SMR Avg 20" SMR Avg 40" SMR



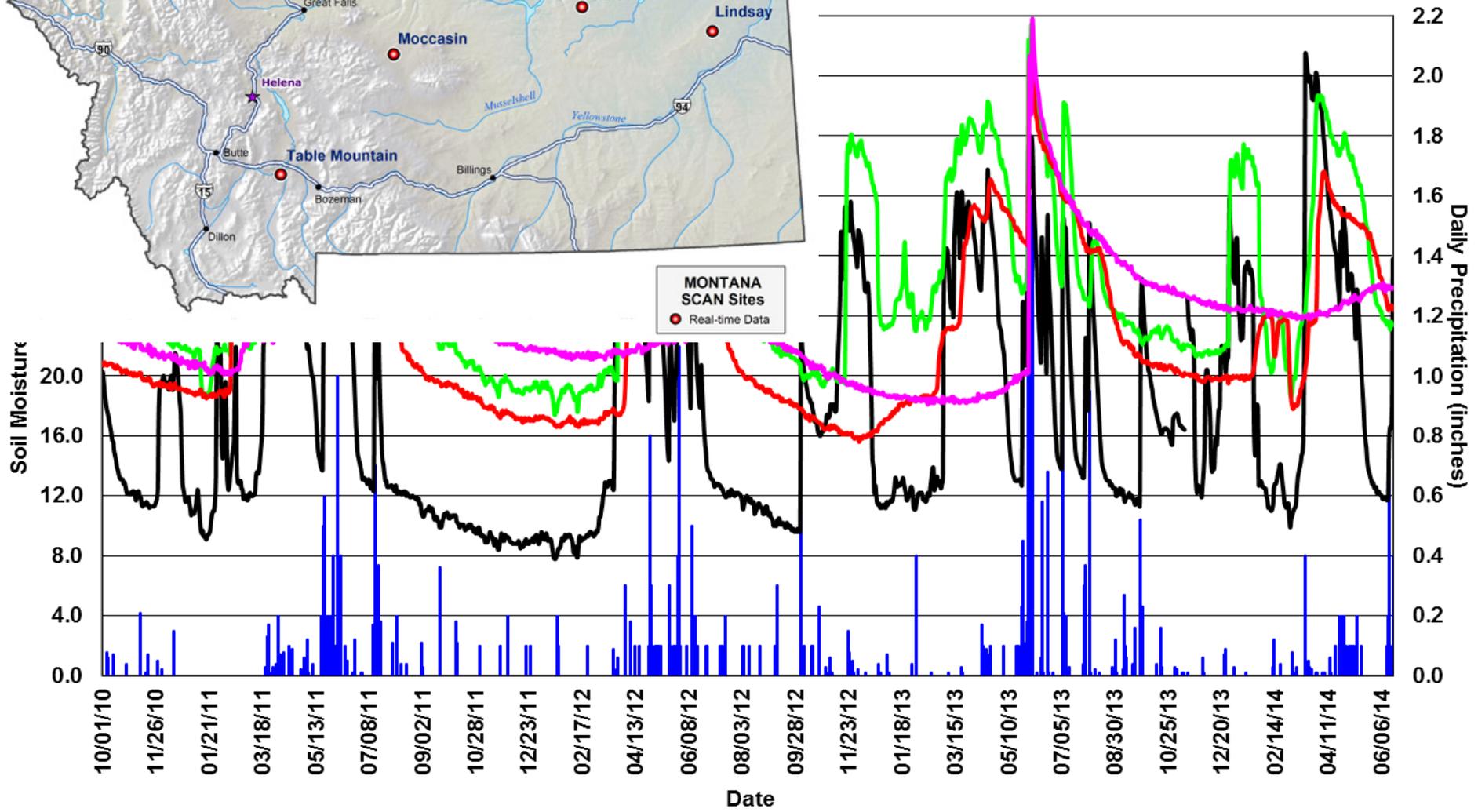
Montana Snow Survey



MONTANA SCAN Sites
 ● Real-time Data

er Year 2011-14
 nse Data

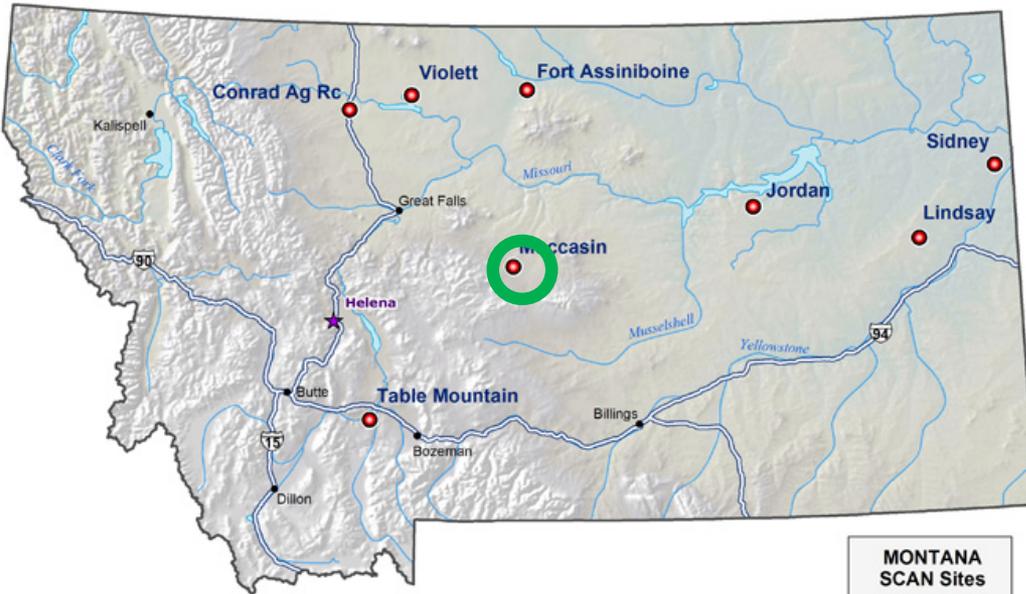
— Avg 20" SMR — Avg 40" SMR



Montana Snow Survey

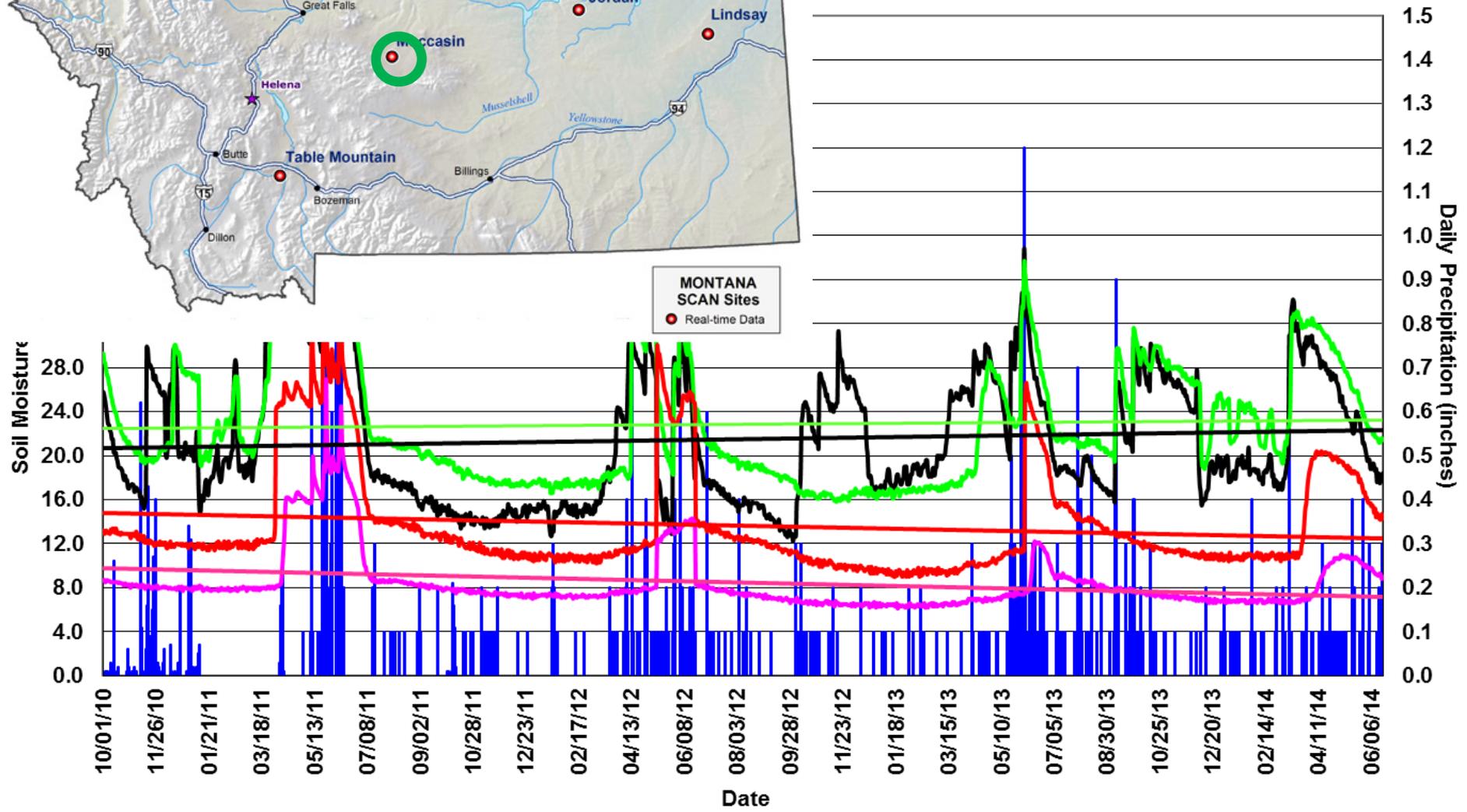


Year 2011-14
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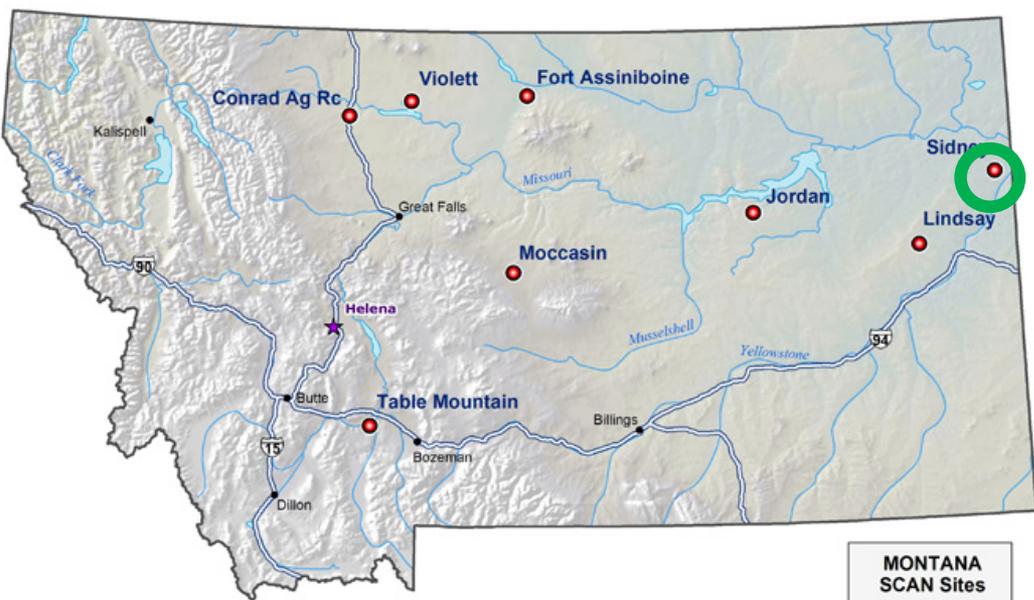


MONTANA
 SCAN Sites
 ● Real-time Data

— Avg 8" SMR
 — Linear (Avg 4" SMR)

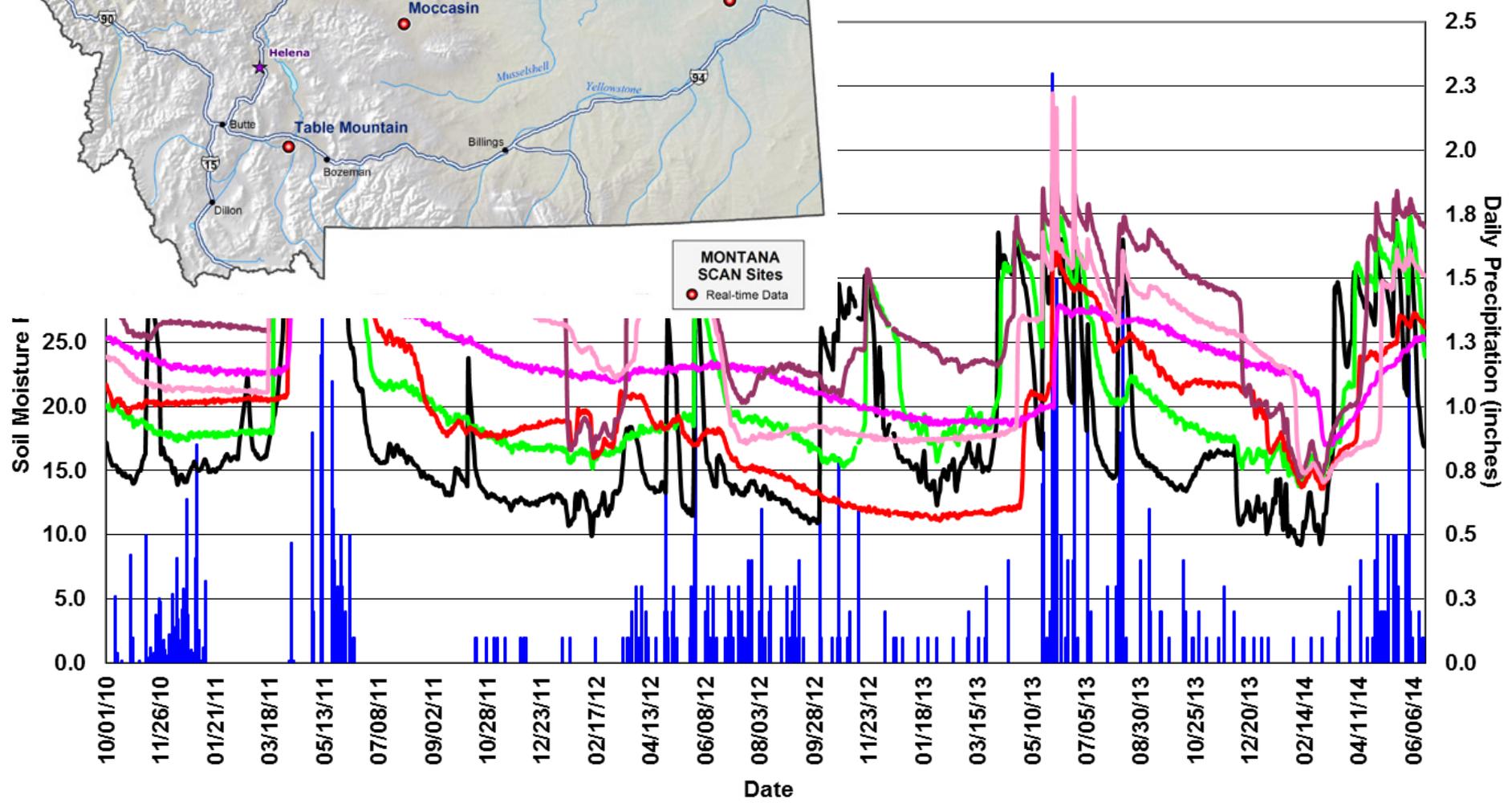


Montana Snow Survey



ear 2011-14
onse Data

Grass Avg 8" SMR Grass Avg 20" SMR
Field Avg 40" SMR



Summary

- Snowmelt played out in the best case scenario, in terms of flood prevention, this spring.
- Since mid-May, well below average precipitation has fallen in the mountains and valleys across the state, allowing plenty of room for snowmelt in the rivers.
- However, well below average precipitation during climatologically favored periods for precipitation has dropped the water year to date precipitation averages in the basins. Recent changes in storm patterns have been welcome during growing season.
- Peak snowmelt driven flows occurred during the latter half of May, with most rivers peaking during the end of the Month. Northern basins are seeing high flows currently due to precipitation and snowmelt combined.
- June-July streamflow forecasts indicate above average stream flows for the period. Most basins range from 115 to 140% of average with a few select basins across the state that are well below average. Consult the June 1st Water Supply Outlook Report for more detailed information.

http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/snow/?cid=nrcs144p2_057799

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Governor's Drought & Water Supply Advisory Committee

Snow Survey and Water Supply Report
June 19th, 2014

Lucas Zukiewicz
Water Supply Specialist
USDA NRCS Montana Snow Surveys
Lucas.Zukiewicz@mt.usda.gov
(406) 587-6843
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/>

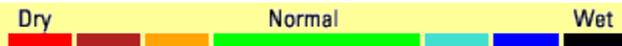
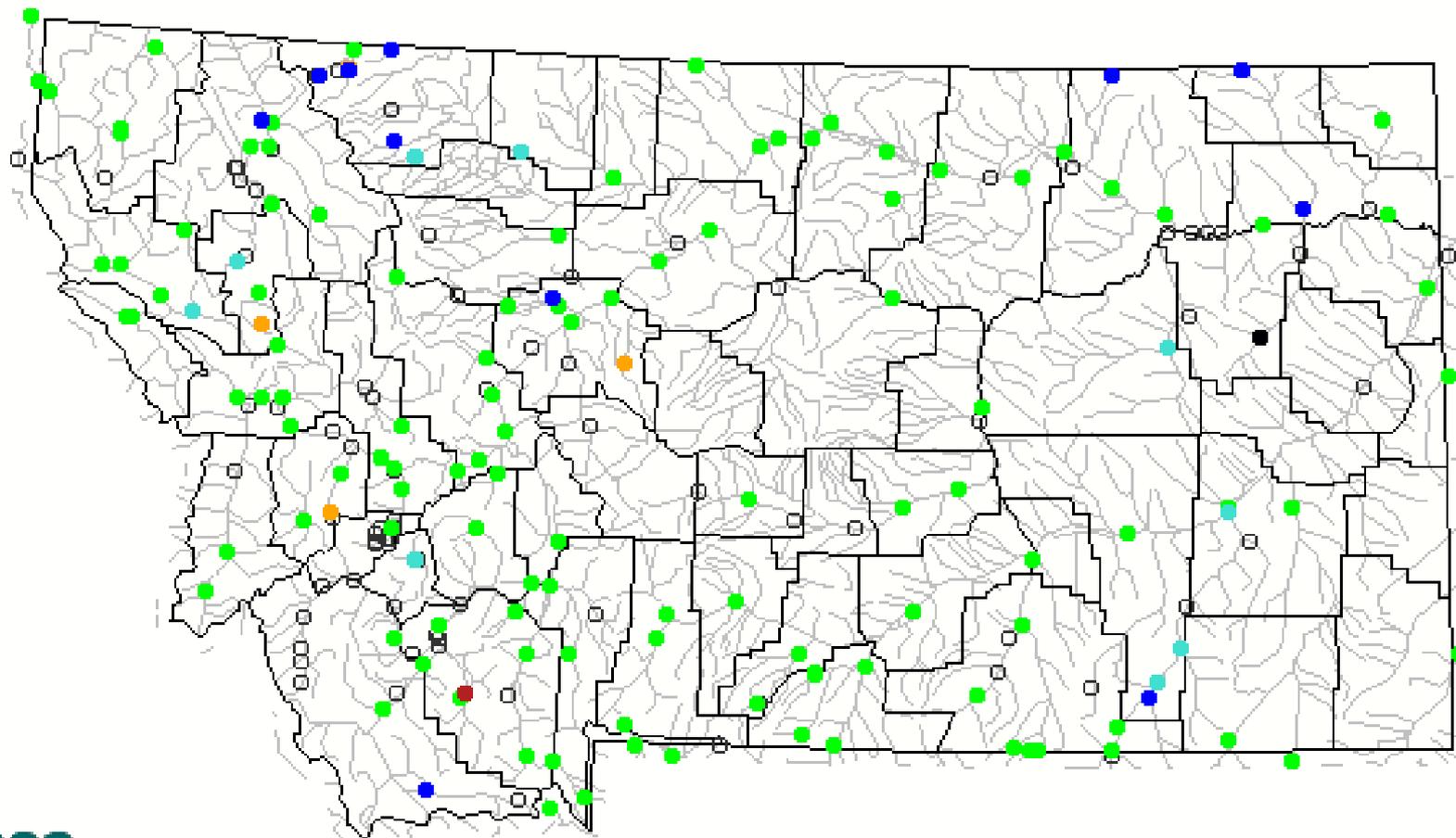


USGS Streamflows, June 2014



DAILY STREAMFLOW CONDITIONS

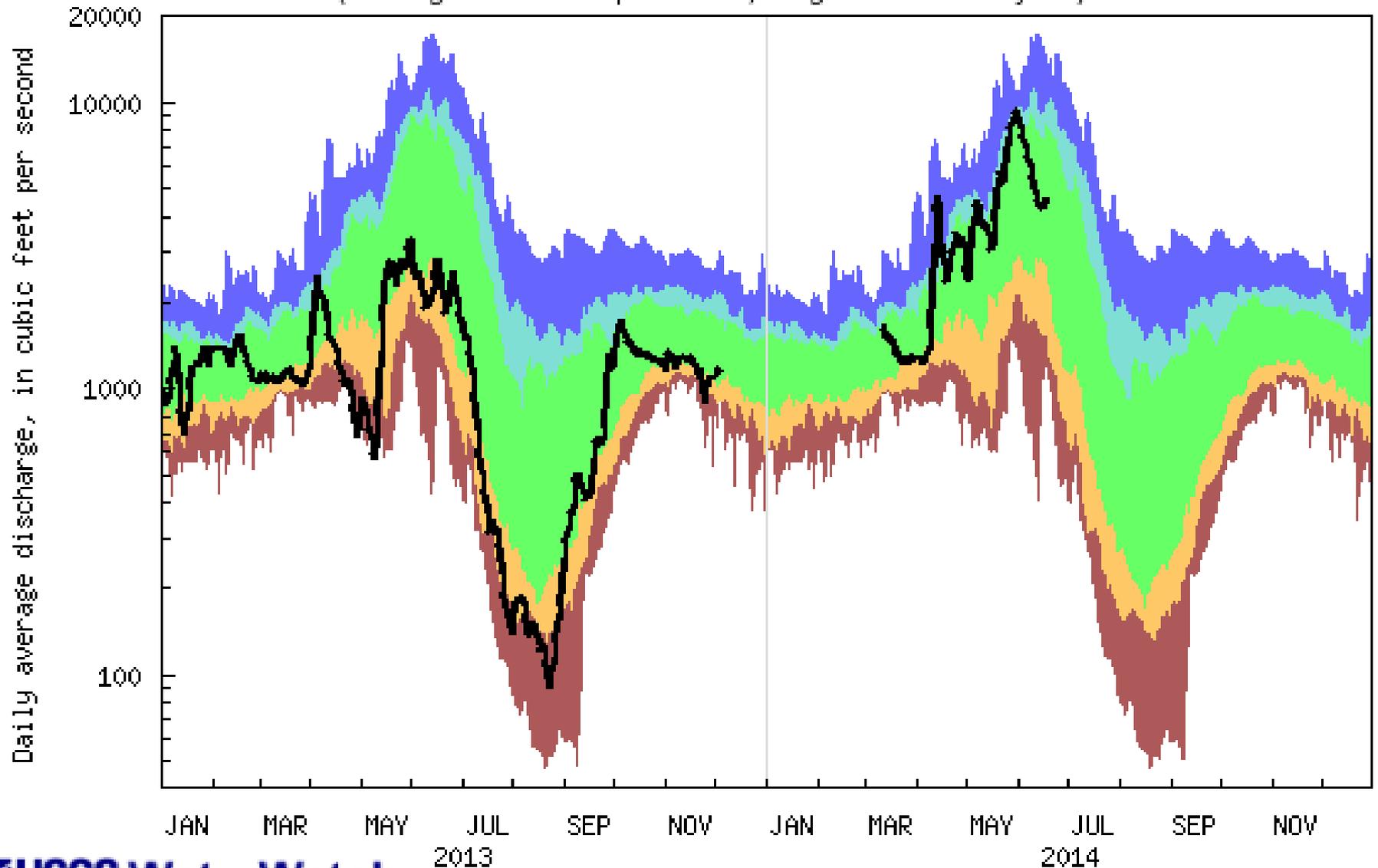
Wednesday, June 18, 2014 11:30ET



Maximum Discharge for June 18

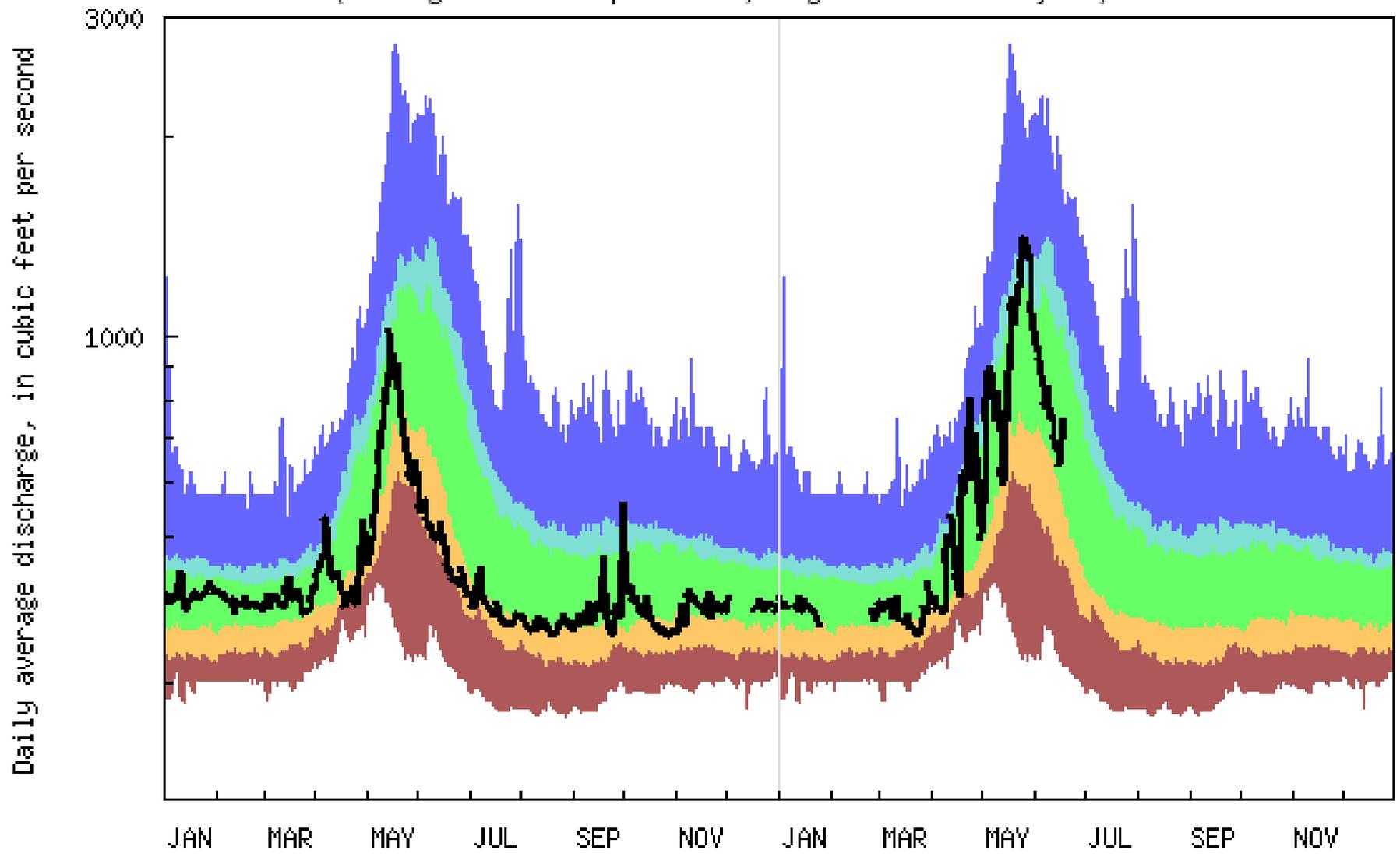
06177500 – Redwater River at Circle

USGS 06036650 Jefferson River near Three Forks MT
 (Drainage Area: 9532 square miles, Length of Record: 35 years)



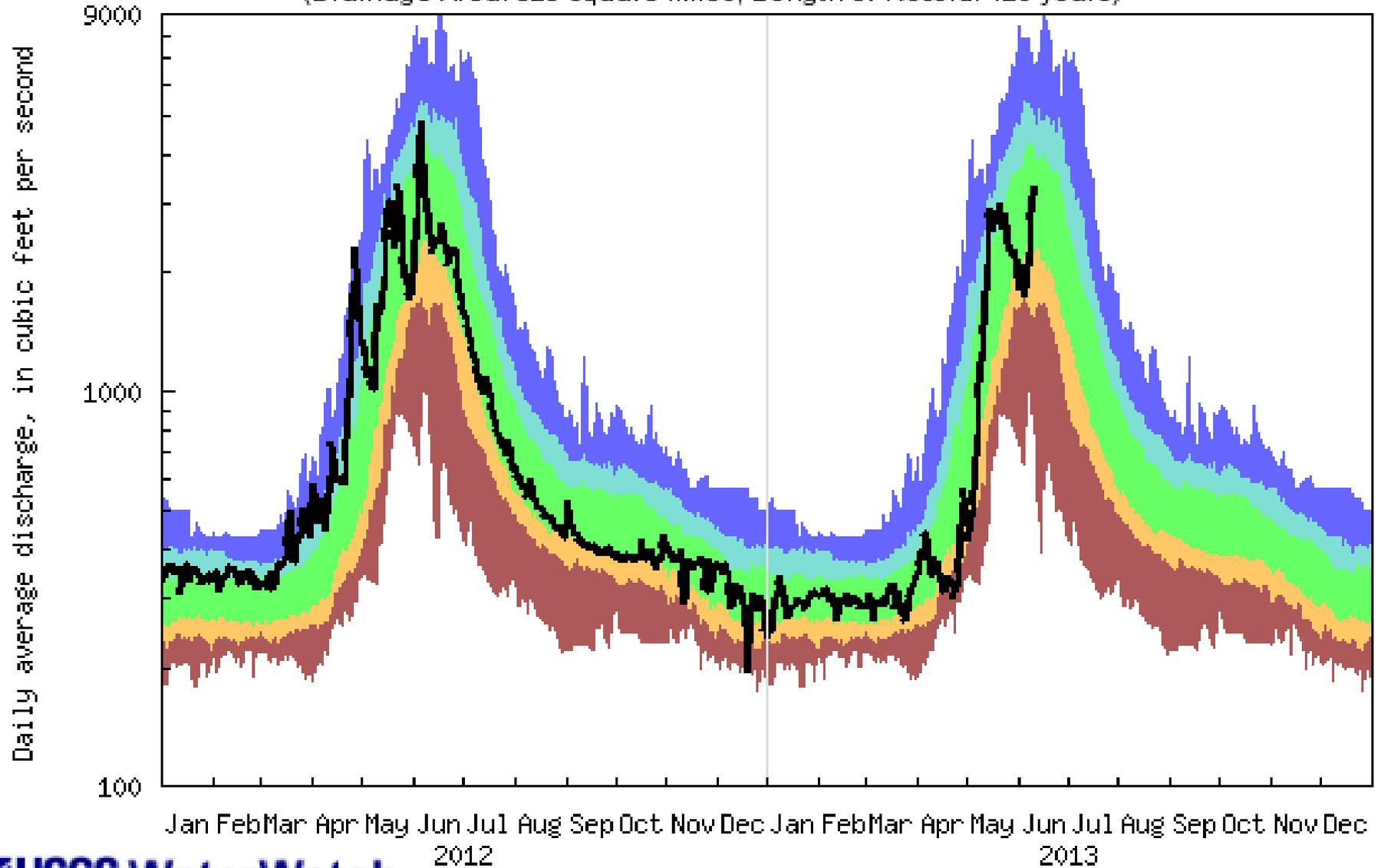
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 06037500 Madison River near West Yellowstone MT
 (Drainage Area: 420 square miles, Length of Record: 100 years)



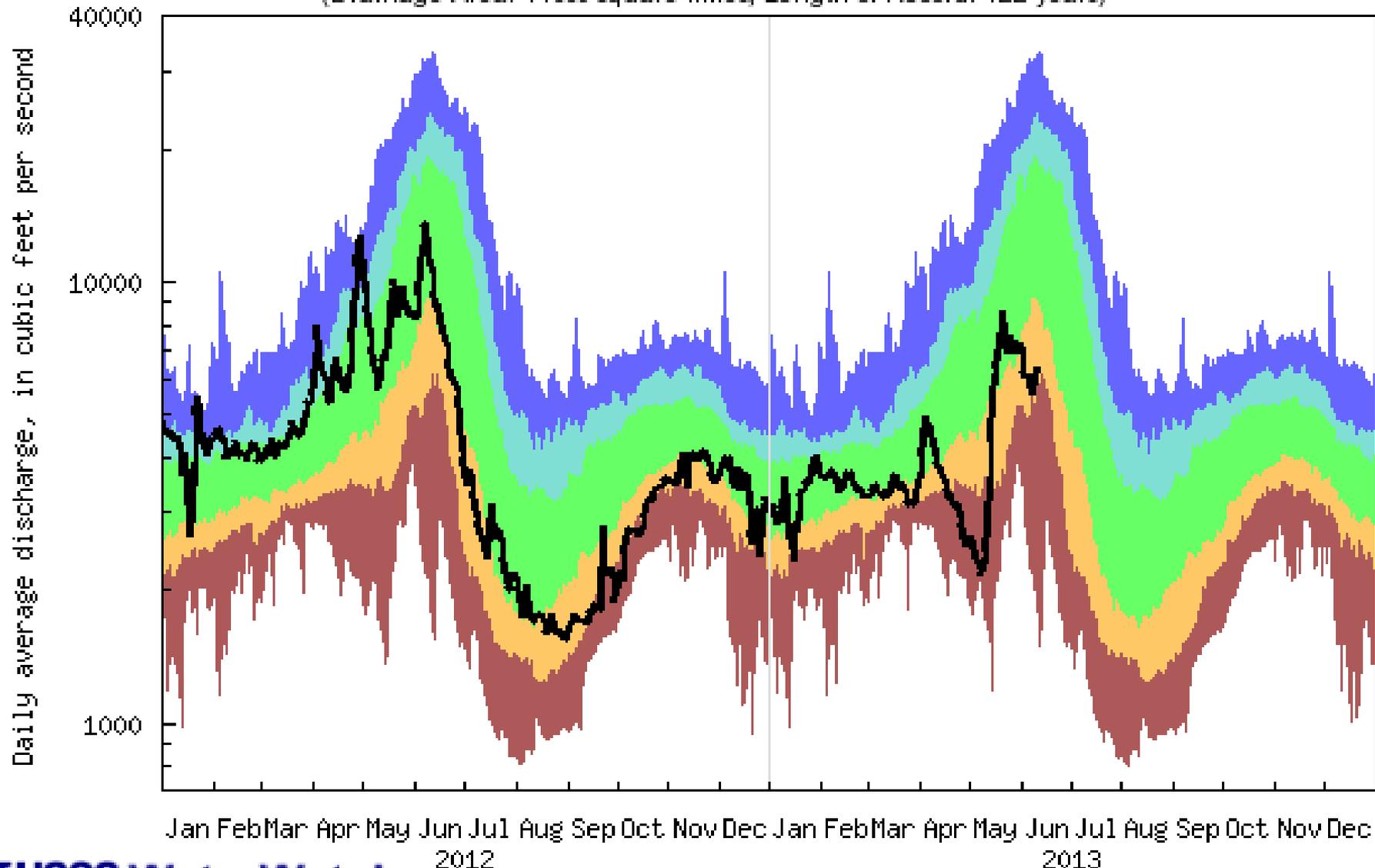
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 06043500 Gallatin River near Gallatin Gateway MT
 (Drainage Area: 825 square miles, Length of Record: 123 years)



Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

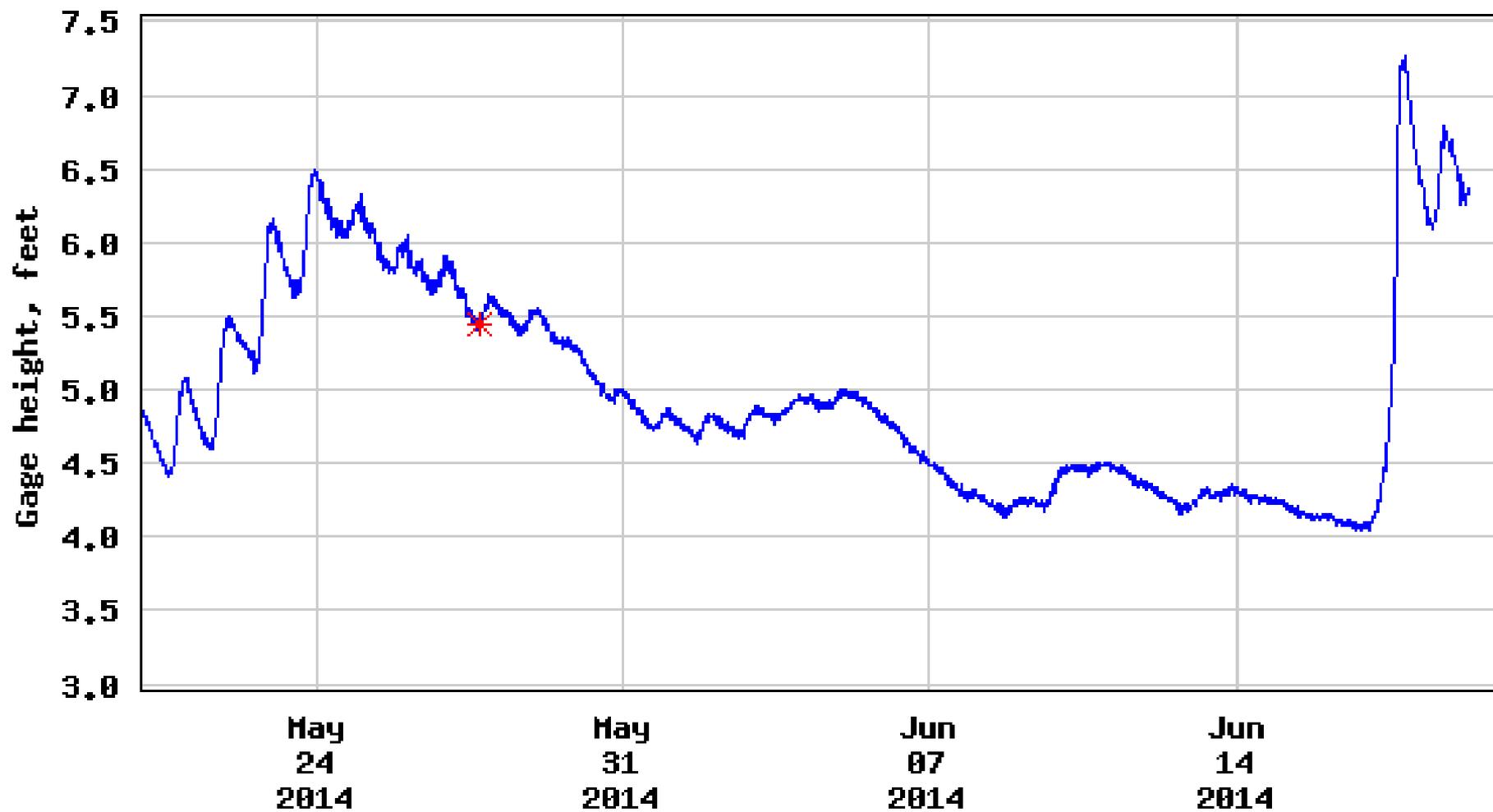
USGS 06054500 Missouri River at Toston MT
 (Drainage Area: 14669 square miles, Length of Record: 122 years)



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2012 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2013

Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 06091700 Two Medicine River bl South Fork nr Browning MT

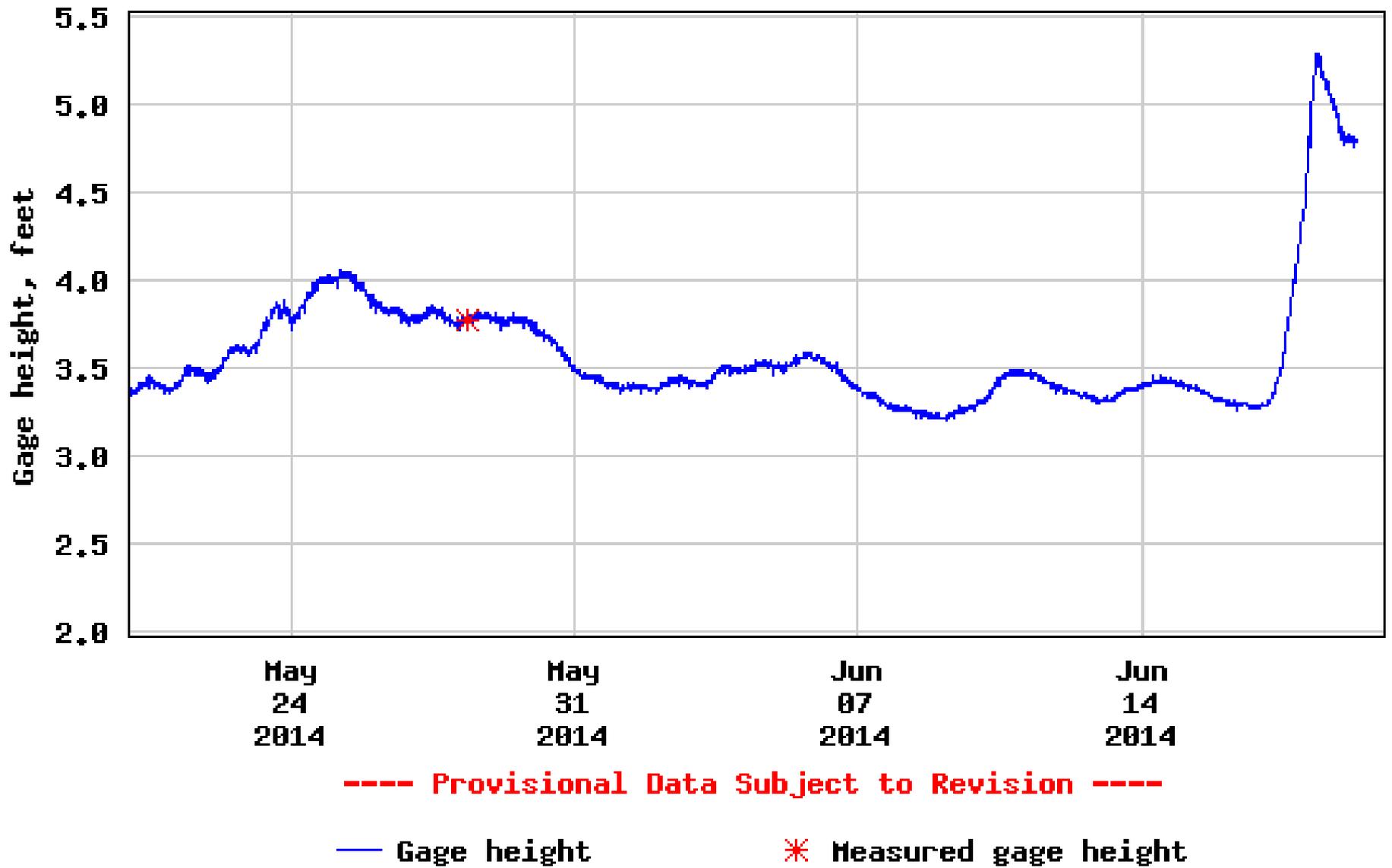


----- Provisional Data Subject to Revision -----

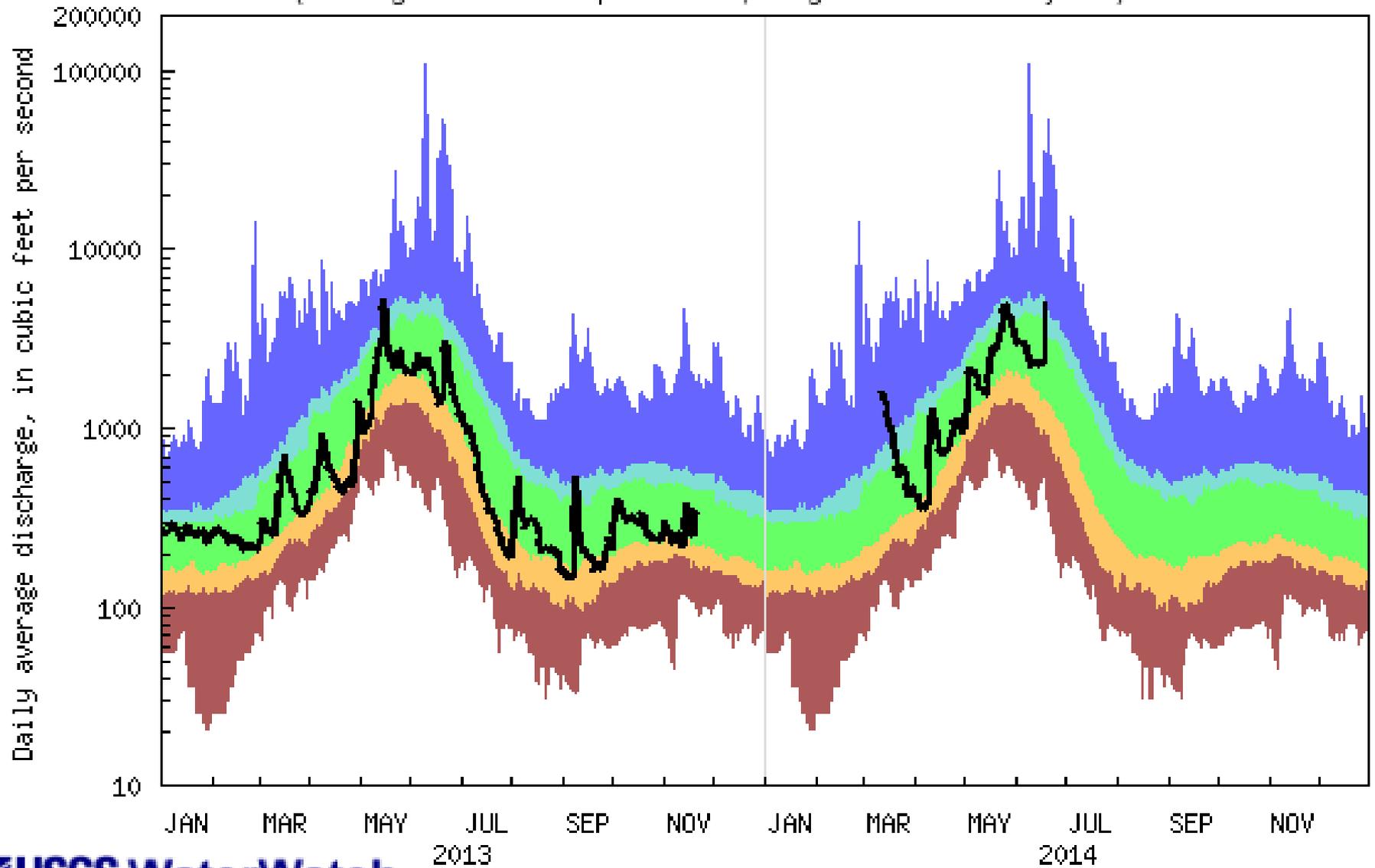
— Gage height

* Measured gage height

USGS 06098500 Cut Bank Creek near Browning MT

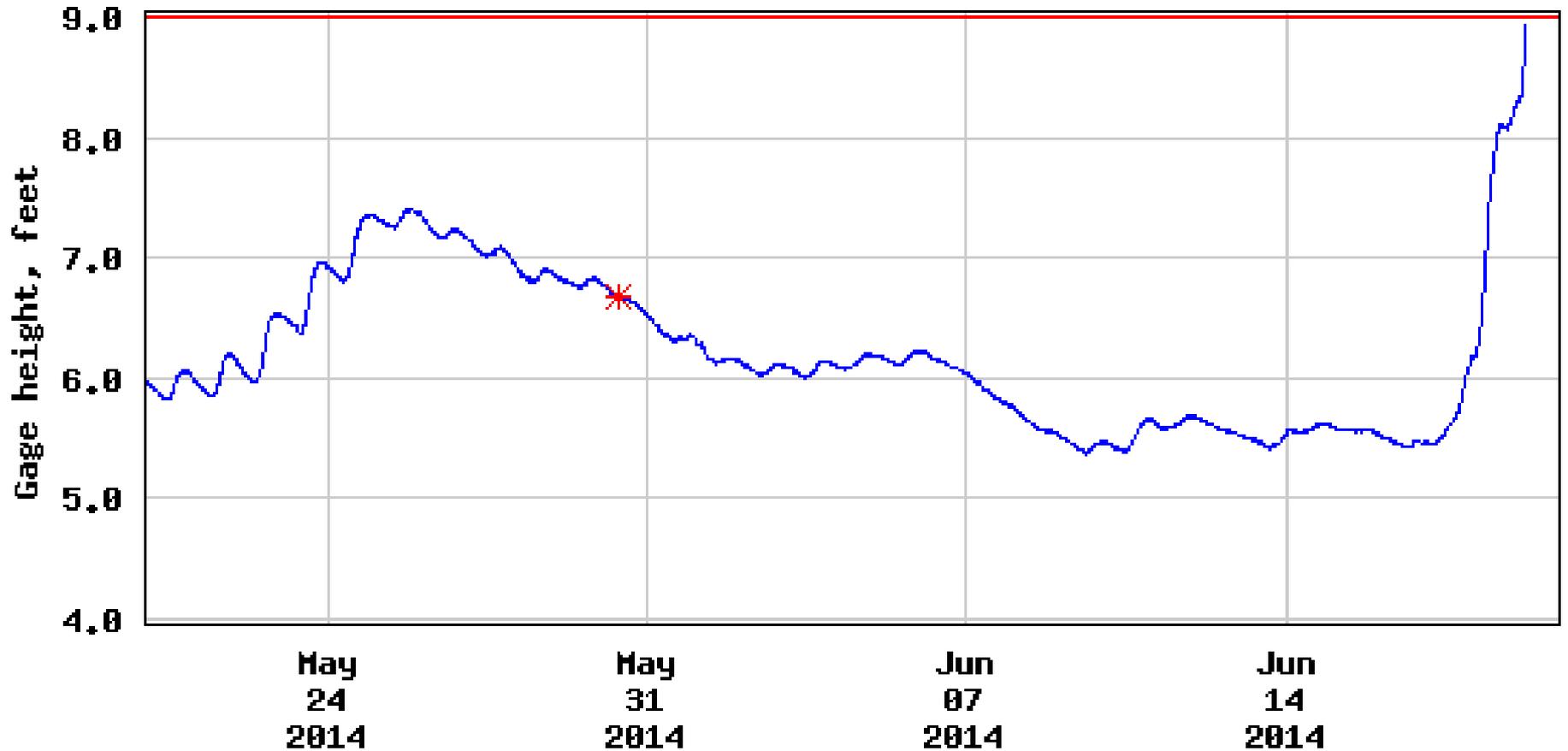


USGS 06099500 Marias River near Shelby MT
 (Drainage Area: 3242 square miles, Length of Record: 111 years)



Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 06099500 Marias River near Shelby MT



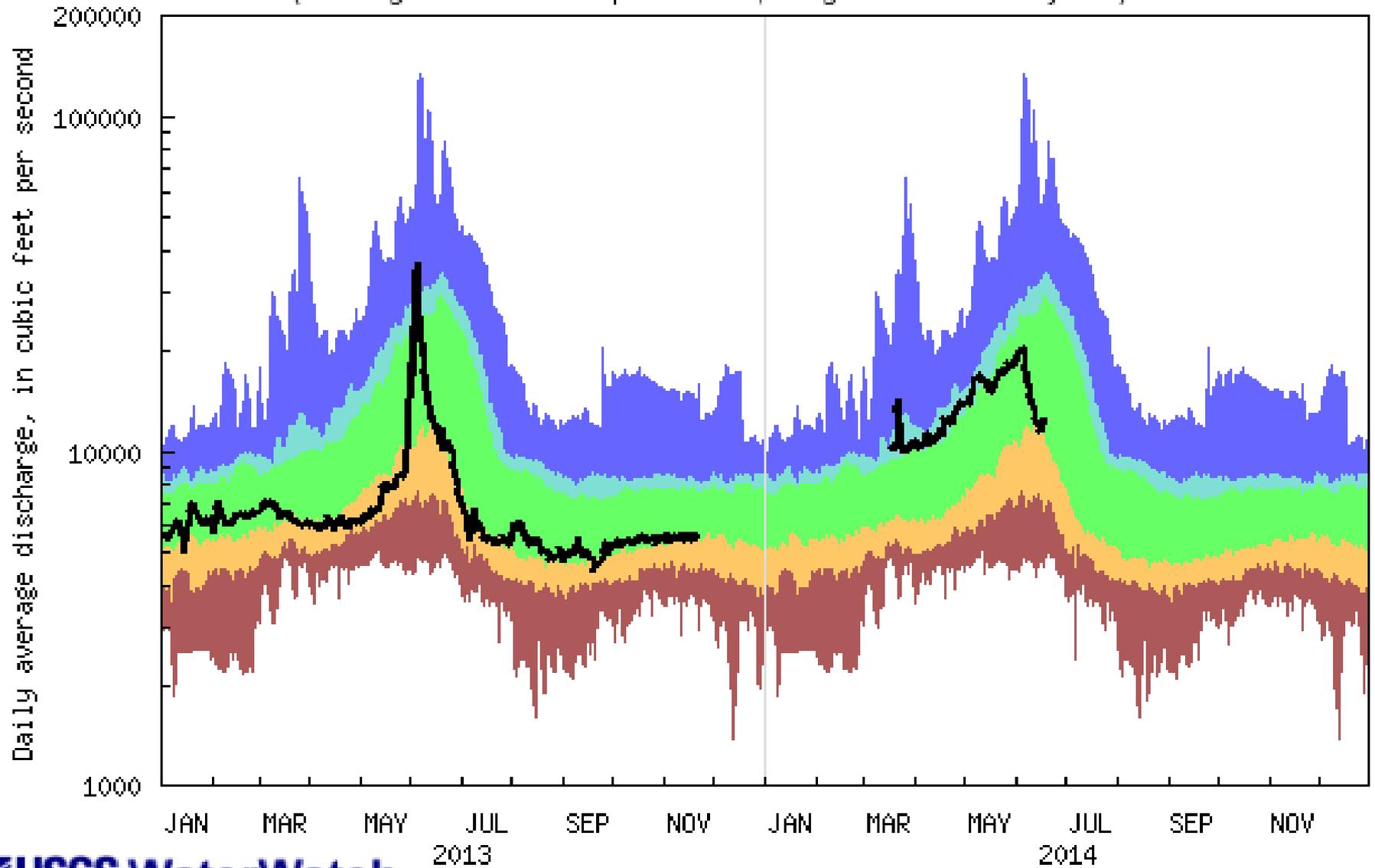
----- Provisional Data Subject to Revision -----

— Gage height

* Measured gage height

— National Weather Service Floodstage

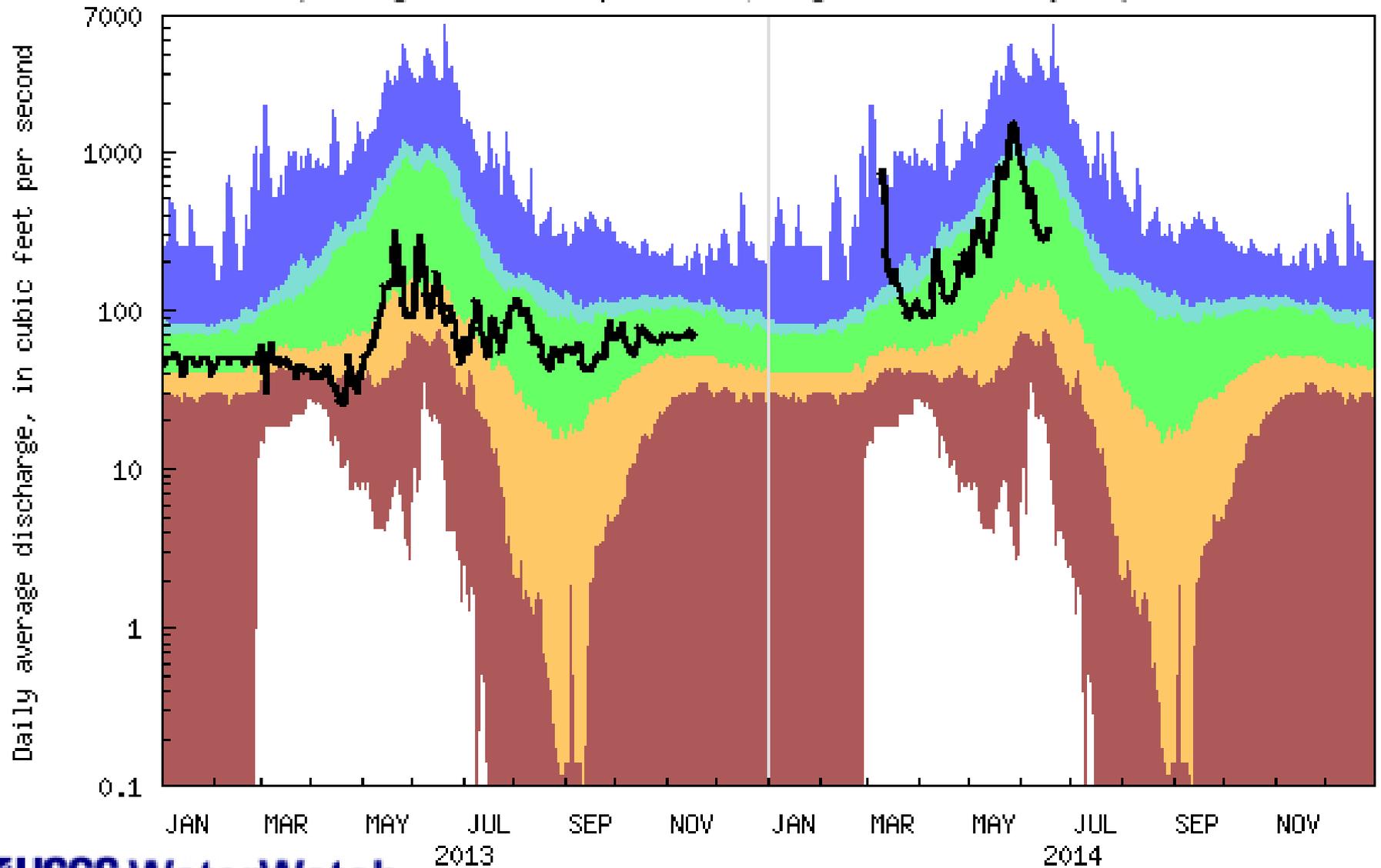
USGS 06115200 Missouri River near Landusky MT
 (Drainage Area: 40987 square miles, Length of Record: 79 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

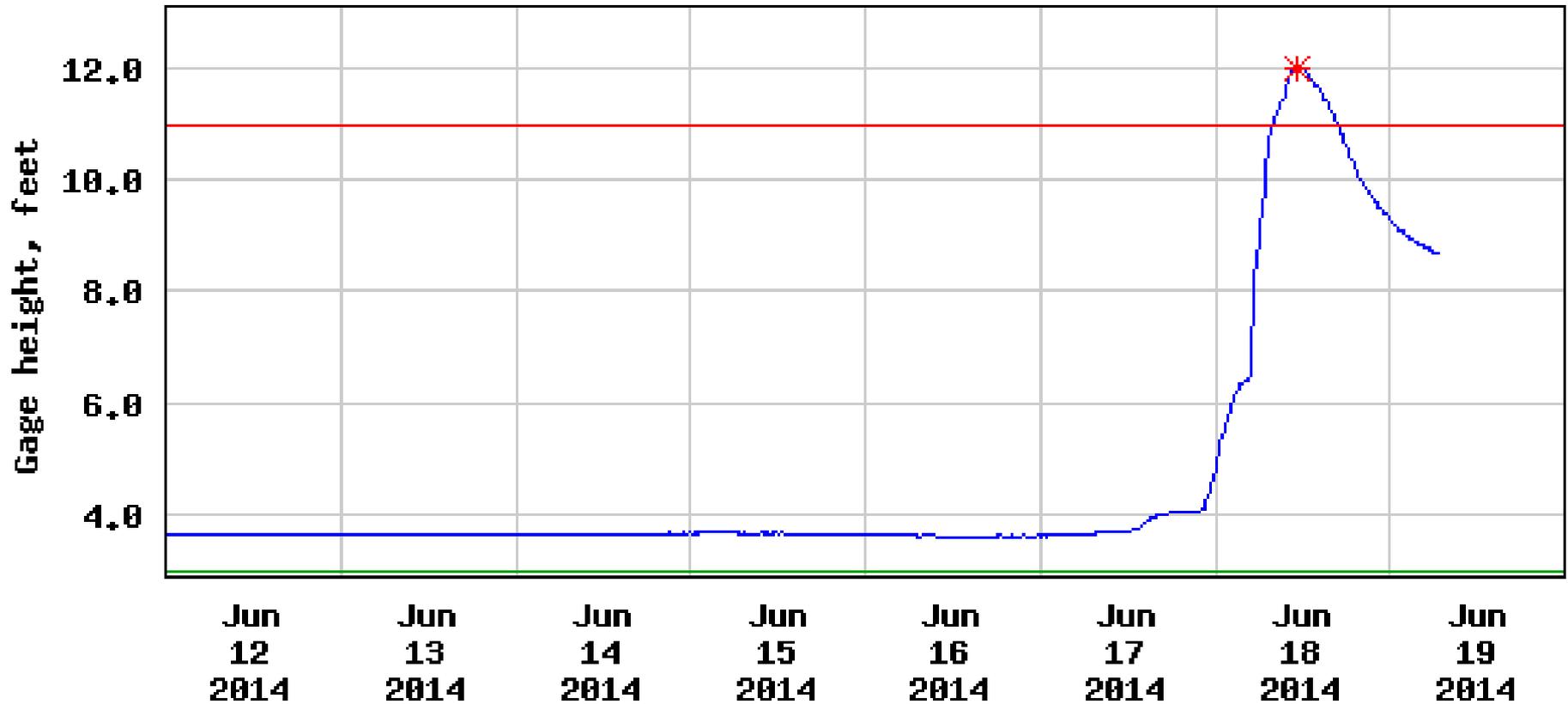
Flow

USGS 06120500 Musselshell River at Harlowton MT
 (Drainage Area: 1125 square miles, Length of Record: 106 years)



Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

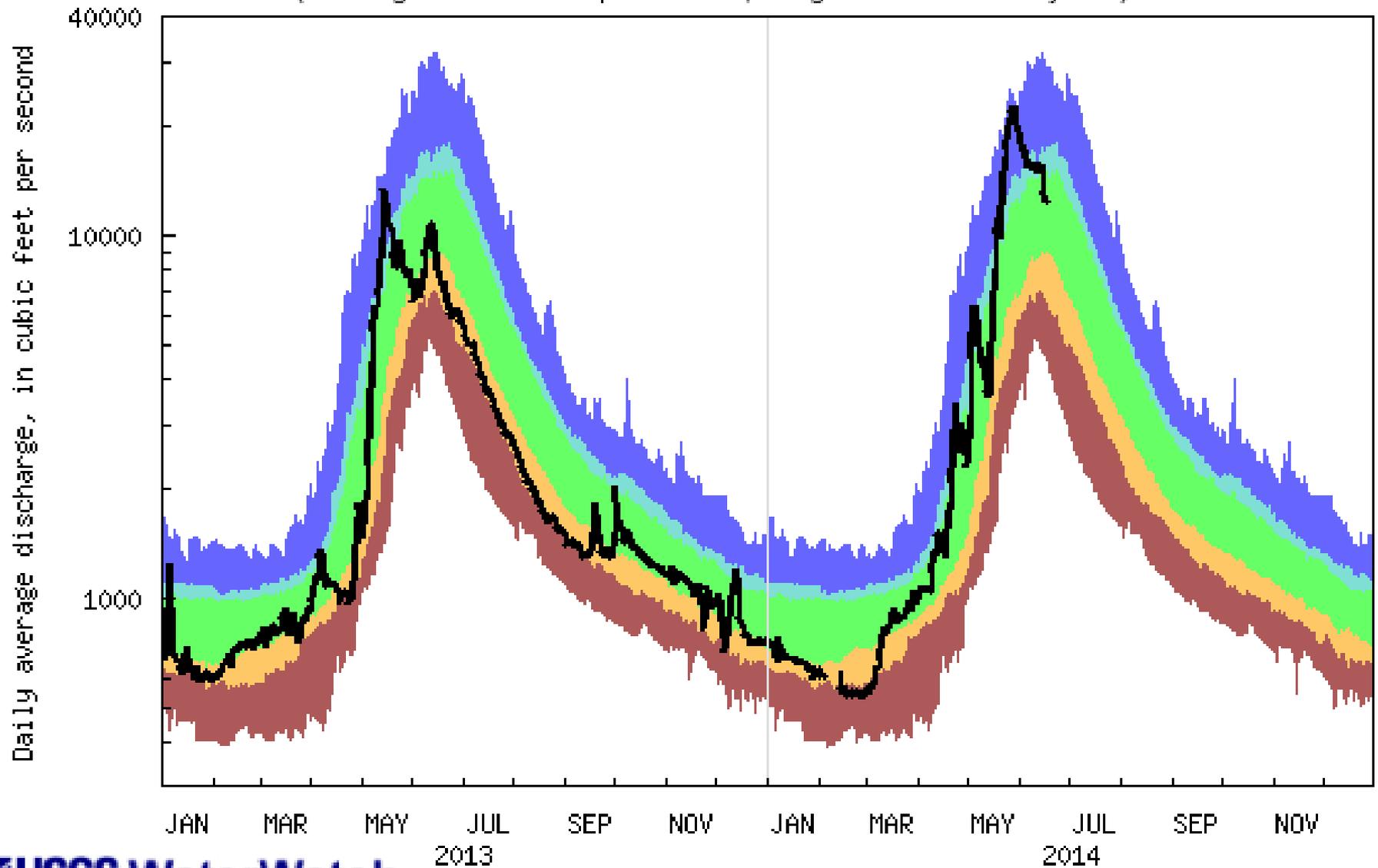
USGS 06177500 Redwater River at Circle MT



----- Provisional Data Subject to Revision -----

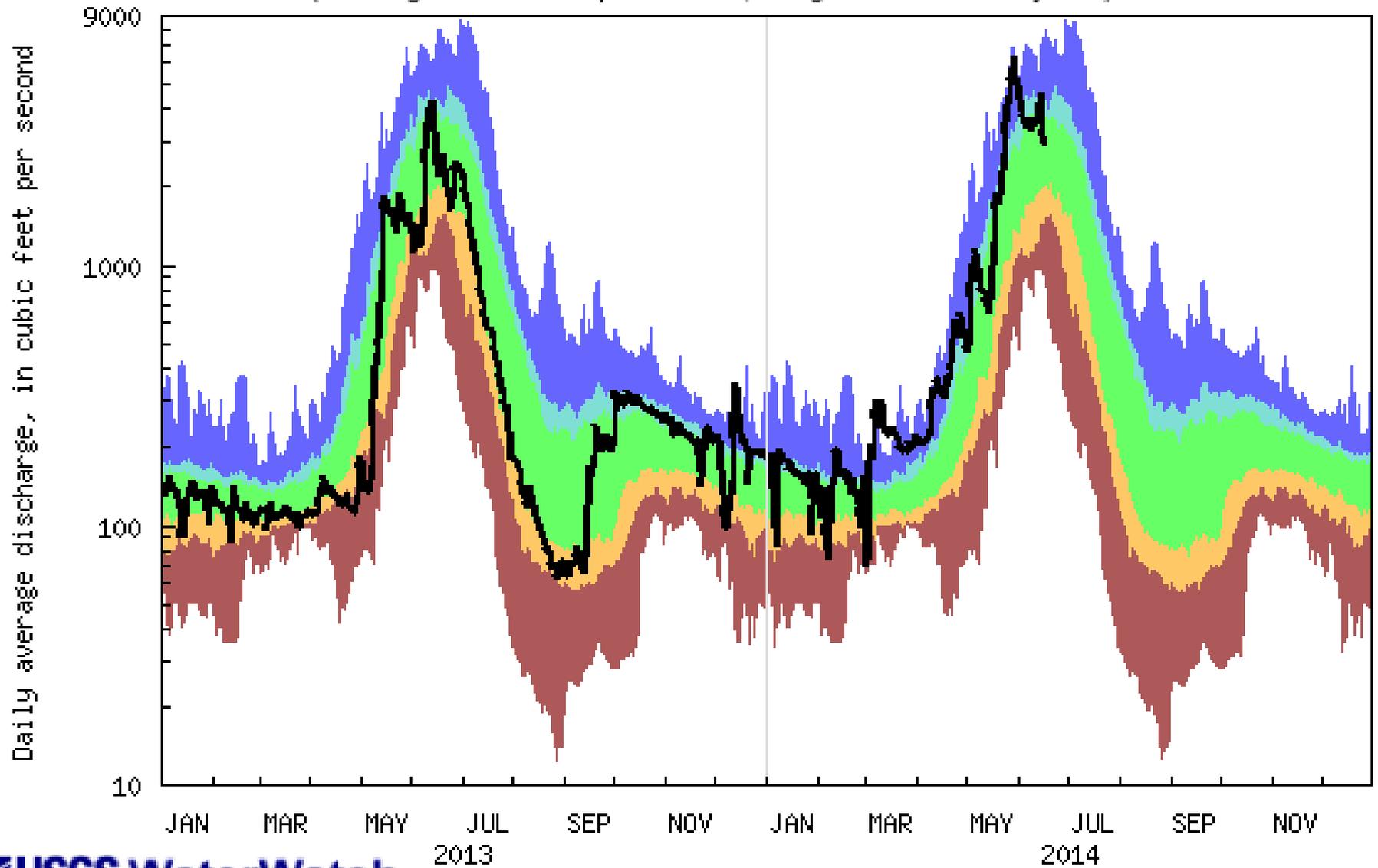
- Gage height
- * Measured gage height
- National Weather Service Flood Stage
- Operating limit (minimum)

USGS 06191500 Yellowstone River at Corwin Springs MT
 (Drainage Area: 2619 square miles, Length of Record: 124 years)



Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

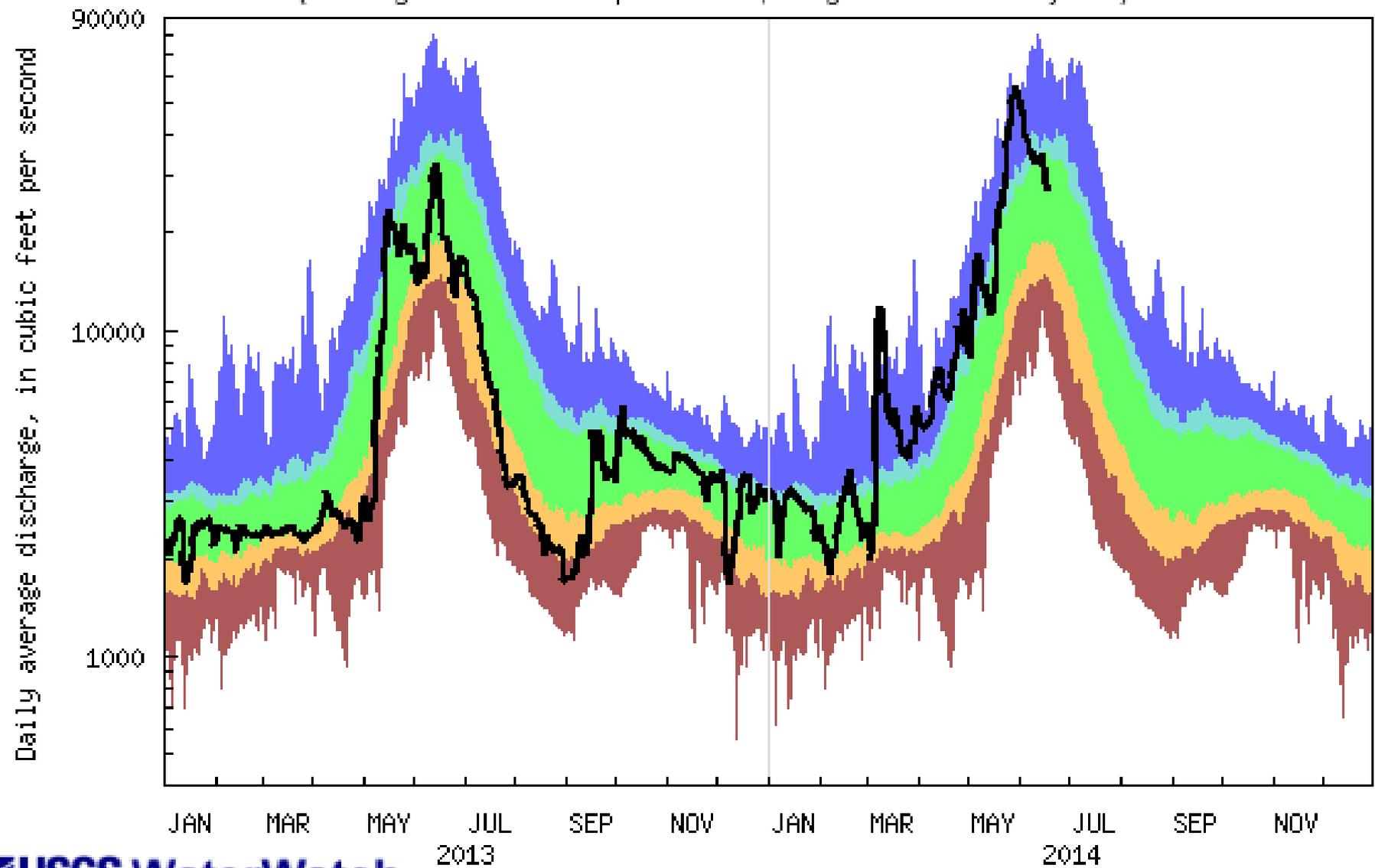
USGS 06200000 Boulder River at Big Timber MT
 (Drainage Area: 523 square miles, Length of Record: 66 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

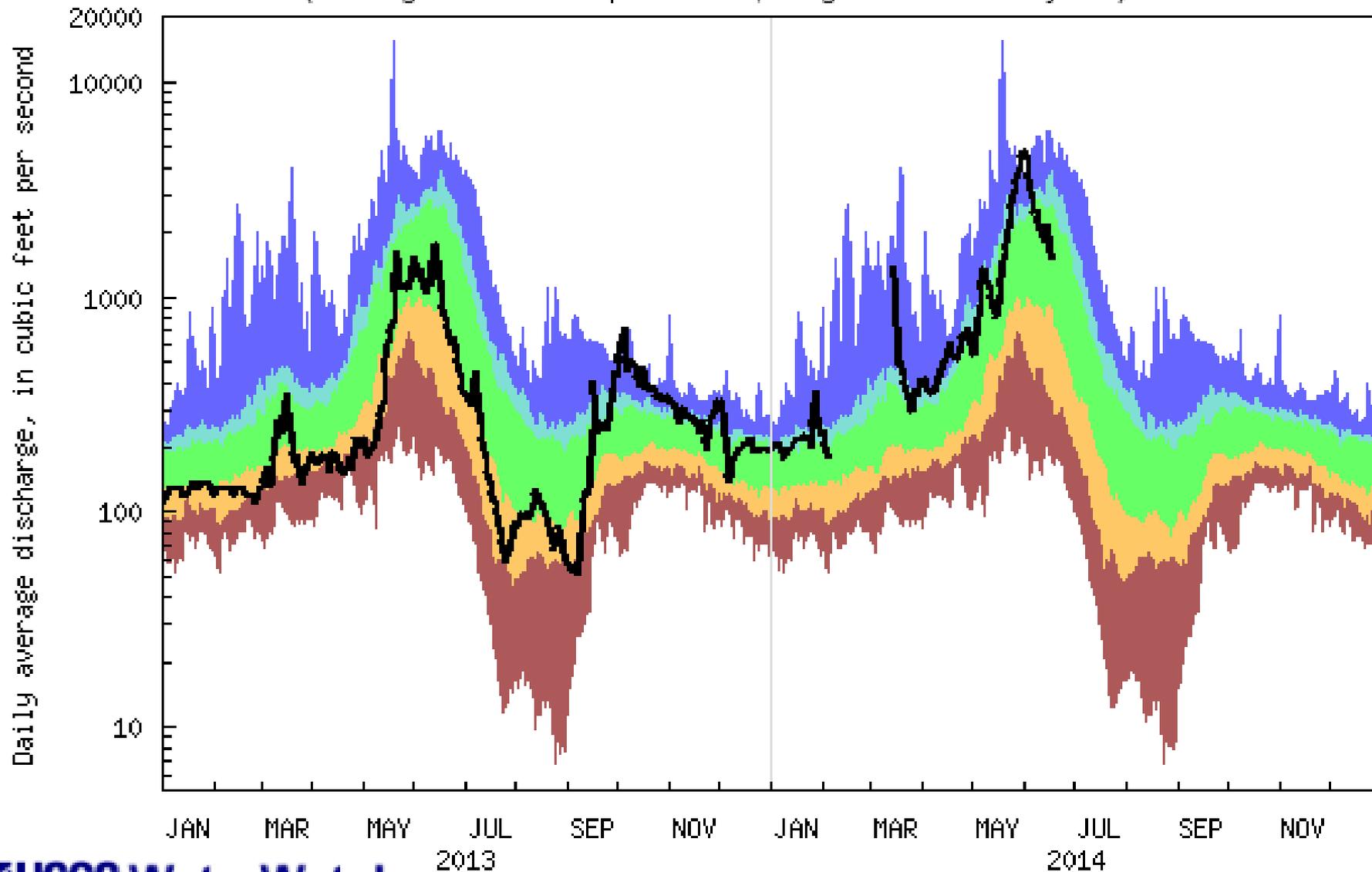
— Flow

USGS 06214500 Yellowstone River at Billings MT
 (Drainage Area: 11805 square miles, Length of Record: 85 years)



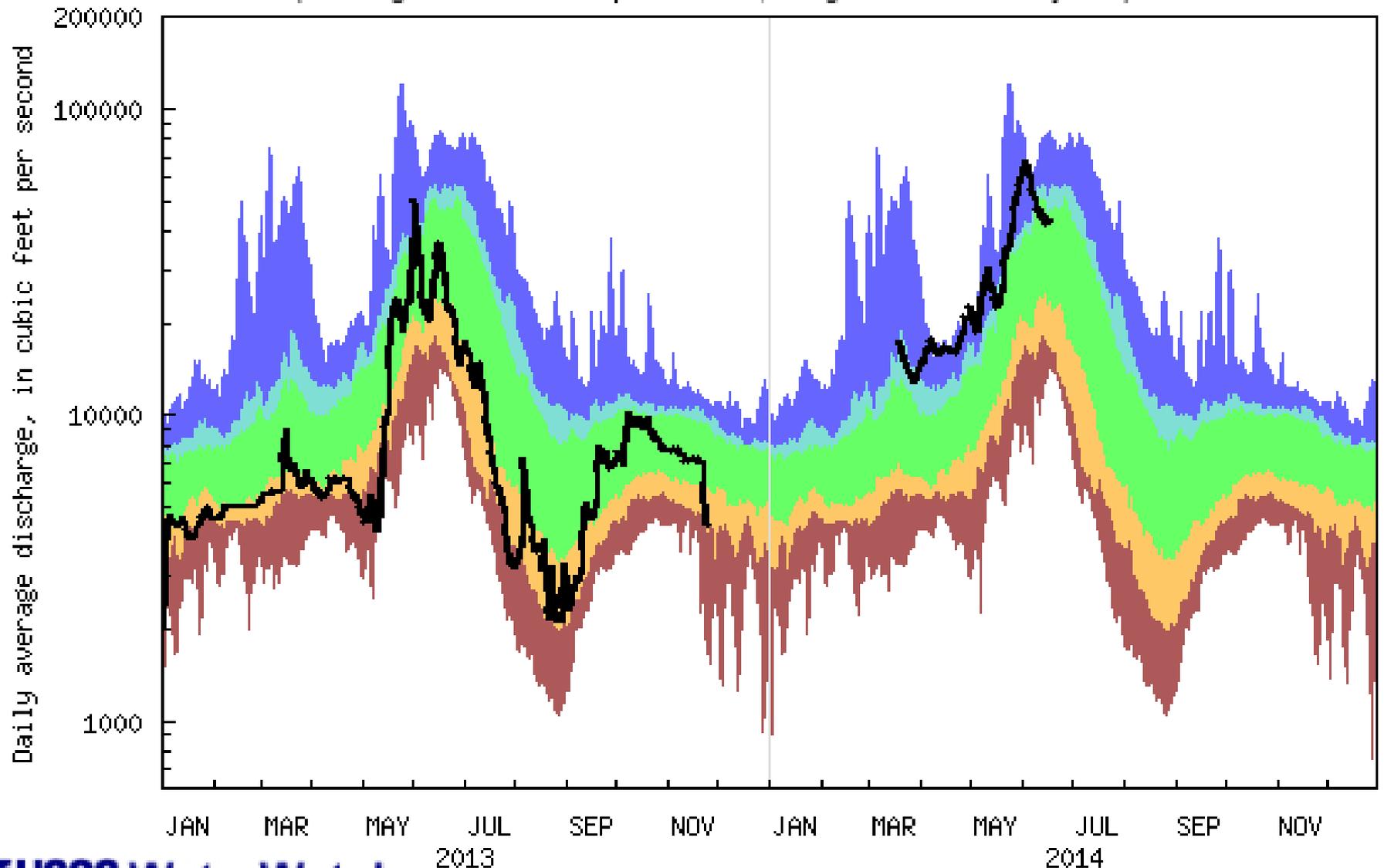
Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest
Much below normal	Below normal	Normal	Above normal	Much above normal

USGS 06306300 Tongue River at State Line nr Decker MT
 (Drainage Area: 1453 square miles, Length of Record: 53 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal
Flow				

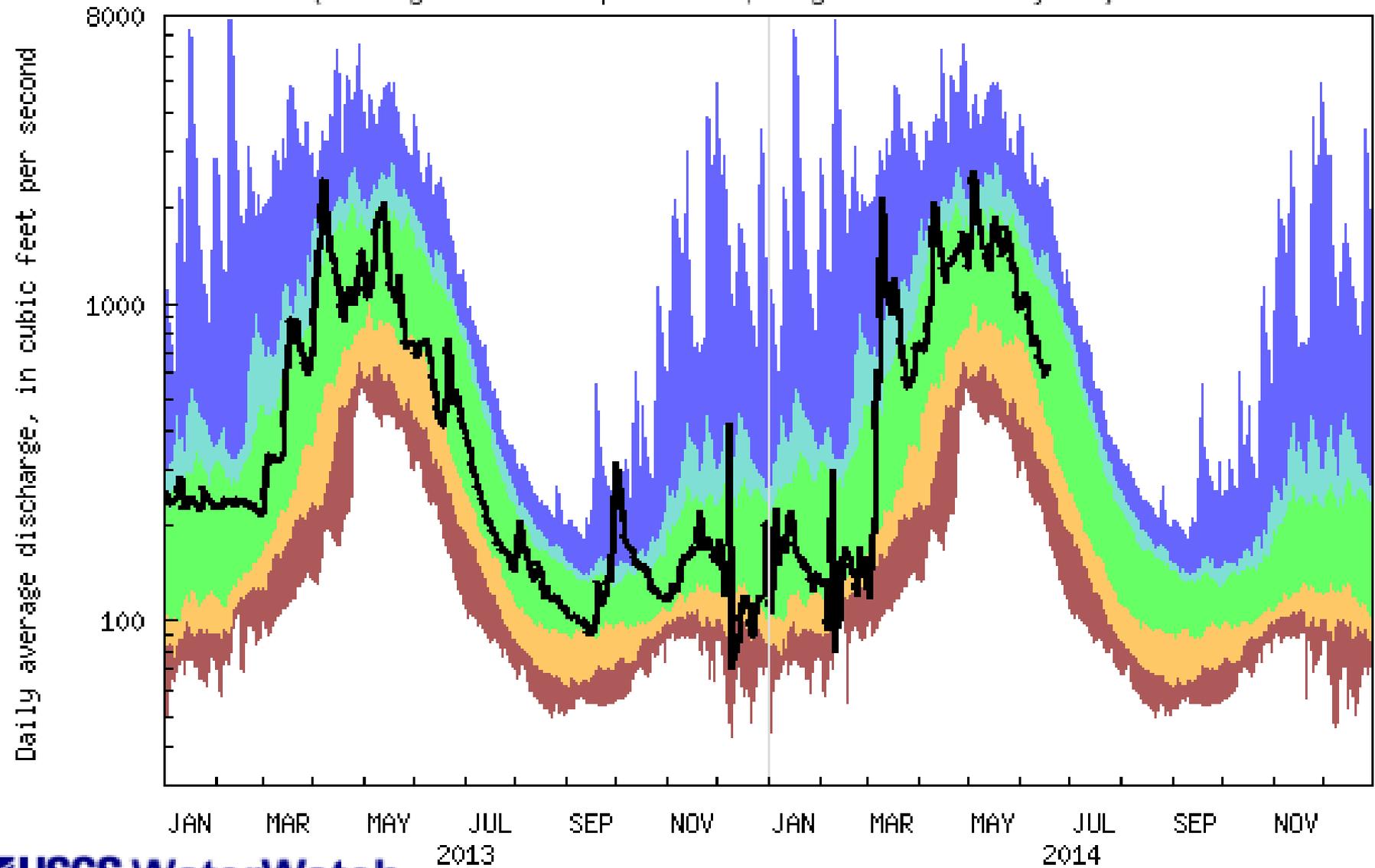
USGS 06329500 Yellowstone River near Sidney MT
 (Drainage Area: 69083 square miles, Length of Record: 47 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

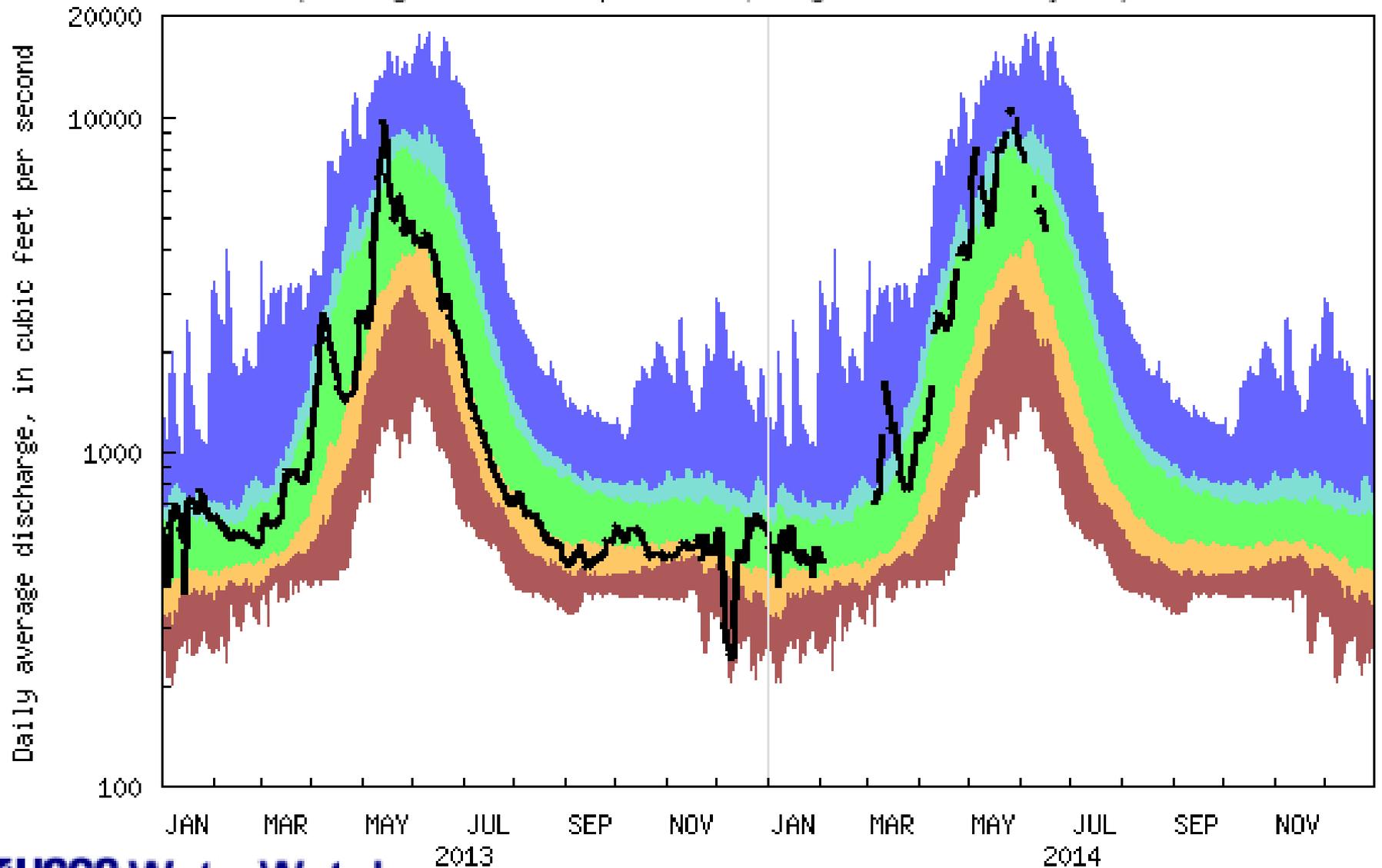
Flow

USGS 12302055 Fisher River near Libby MT
 (Drainage Area: 838 square miles, Length of Record: 46 years)



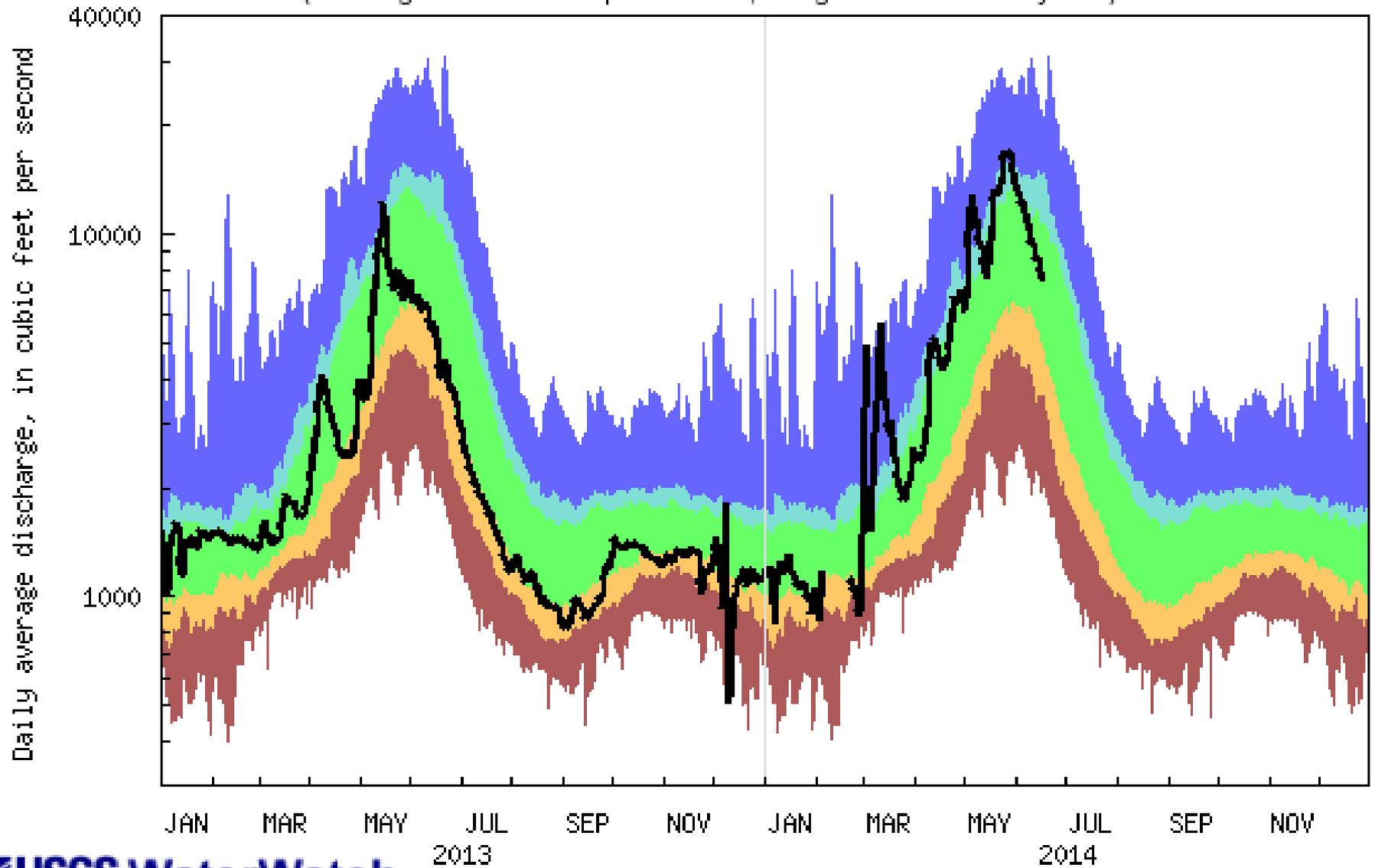
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 12340000 Blackfoot River near Bonner MT
 (Drainage Area: 2290 square miles, Length of Record: 115 years)



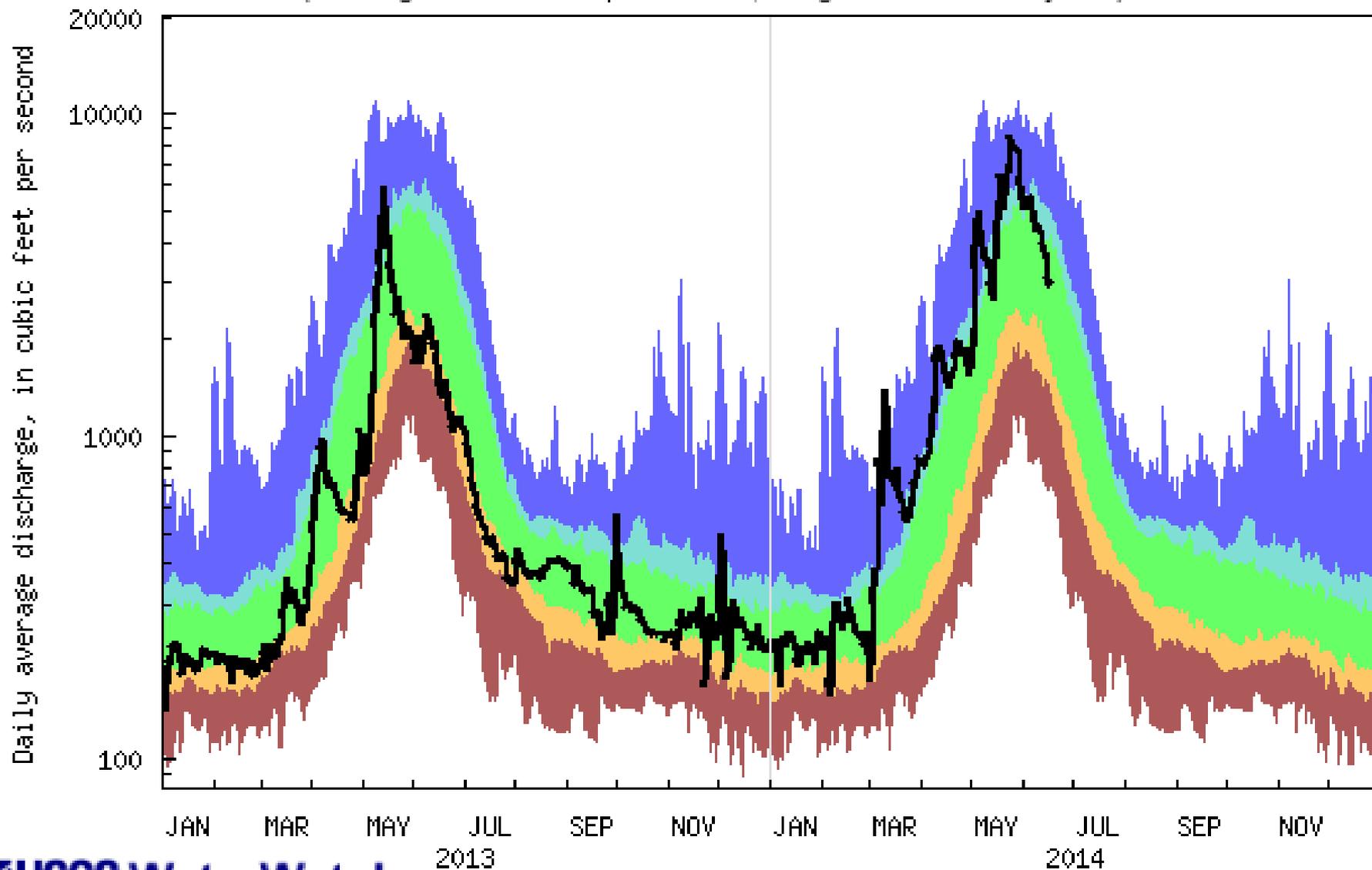
Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal
Flow				

USGS 12340500 Clark Fork above Missoula MT
 (Drainage Area: 5999 square miles, Length of Record: 84 years)



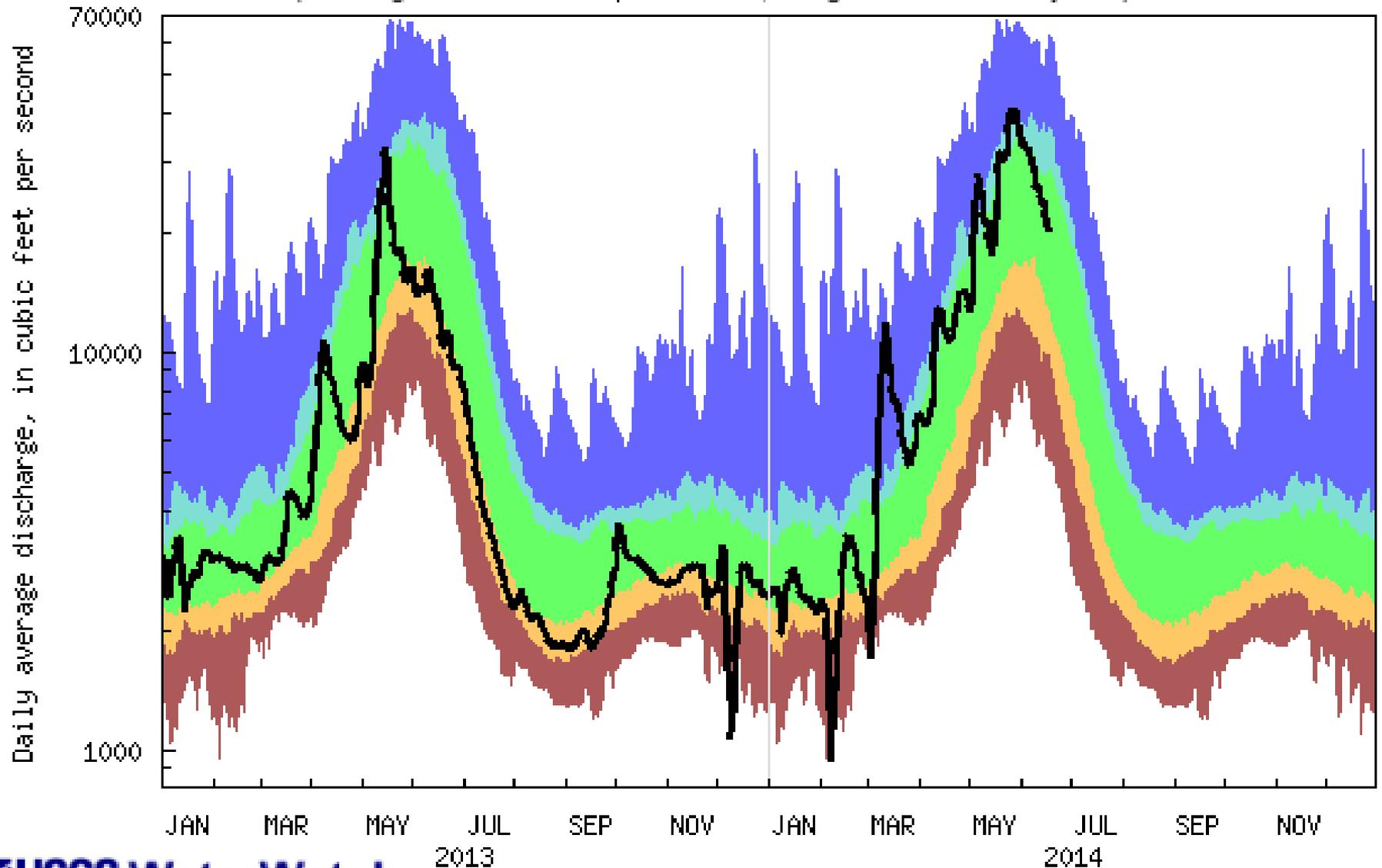
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 12344000 Bitterroot River near Darby MT
 (Drainage Area: 1049 square miles, Length of Record: 76 years)



Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS 12354500 Clark Fork at St. Regis MT
 (Drainage Area: 10709 square miles, Length of Record: 84 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

Flow

USGS 12355000 Flathead River at Flathead British Columbia

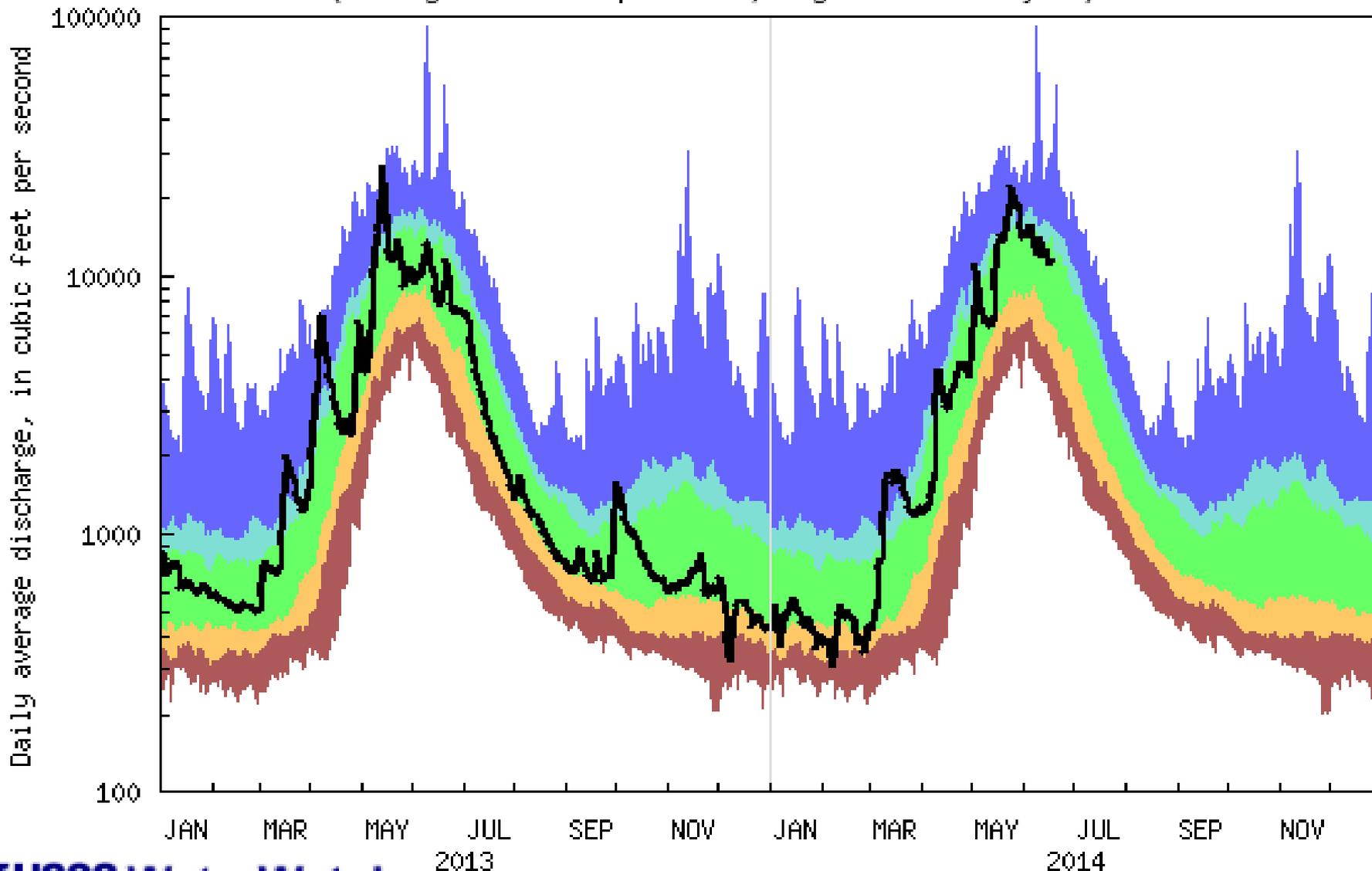


---- Provisional Data Subject to Revision ----

— Gage height

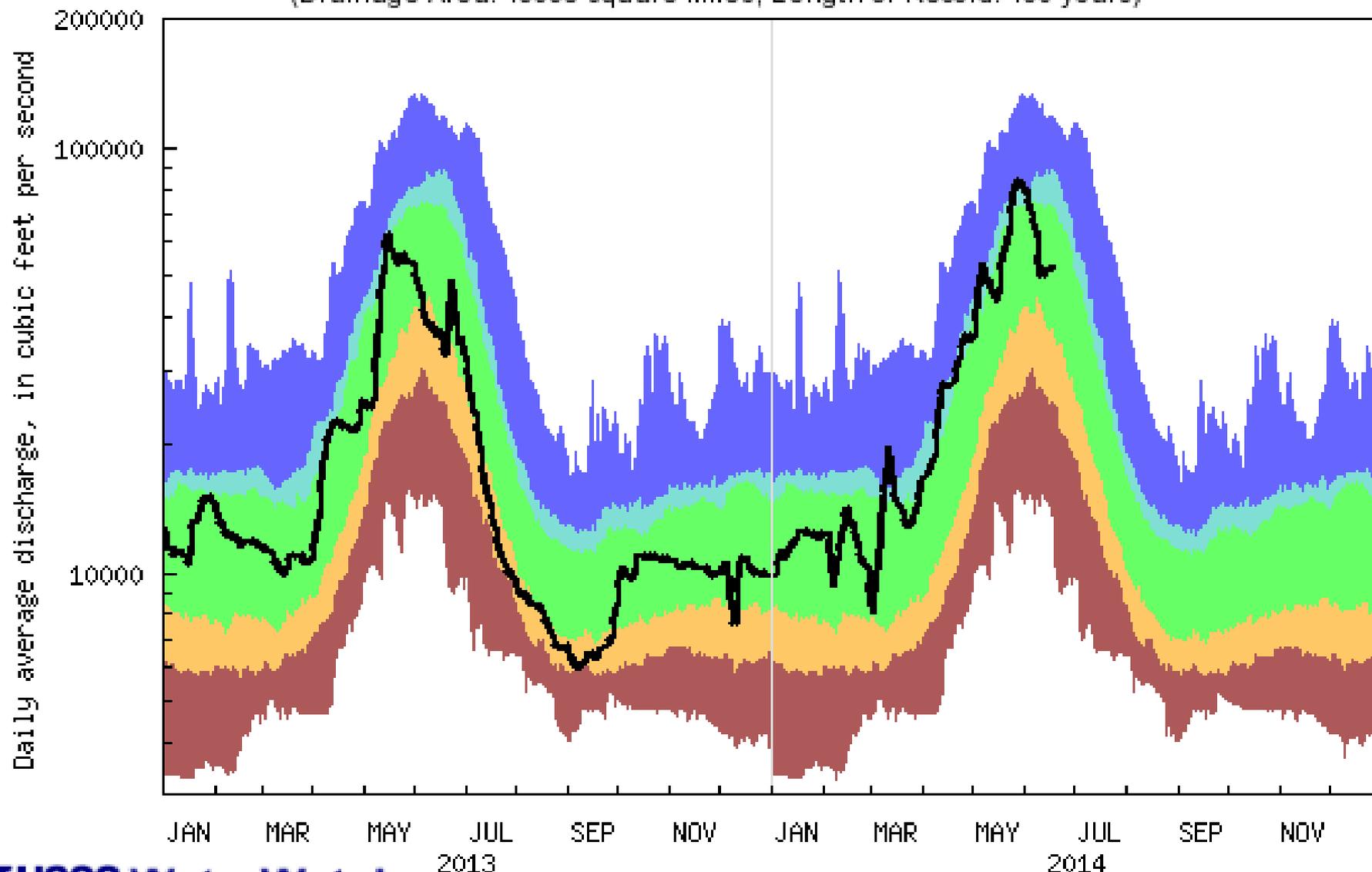
* Measured gage height

USGS 12368500 M F Flathead River near West Glacier MT
 (Drainage Area: 1128 square miles, Length of Record: 74 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

USGS 12389000 Clark Fork near Plains MT
 (Drainage Area: 19958 square miles, Length of Record: 103 years)



Explanation - Percentile classes				
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest
Much below normal	Below normal	Normal	Above normal	Much above normal

Flow



USGS Home Page: <http://usgs.gov>

NwisWeb: <http://water.usgs.gov/mt/nwis>
Access to streamflow (realtime and historical), water quality,
and ground water information.

Montana District Home Page: <http://mt.usgs.gov>
Montana Current Streamflow Conditions